PB-215 879

WATER POLLUTION CONTROL RESEARCH AND TRAINING GRANTS. 1969 GRANT AWARDS: RESEARCH GRANTS, DEMONSTRATION GRANTS, TRAINING GRANTS, AND RESEARCH FELLOWSHIPS

Federal Water Pollution Control Administration
Washington, D. C.

1967

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Water Pollution Control Research and Training Grants

1967 Grant Awards

RESEARCH GRANTS

DEMONSTRATION GRANTS

TRAINING GRANTS

RESEARCH FELLOWSHIPS

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FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
Office of Research and Development
Division of Grants Management
Washington, D. C. 20242

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FOREWORD

AUTHORITY: Grants for research, demonstration, and training projects and for research fellowship awards are authorized in Section 5 of the Federal Water Pollution Control Act, Public Law 660, as amended.

PURPOSES: The purposes of these grants are to encourage, cooperate with, and assist appropriate agencies, institutions, and individuals in the conduct of studies and training relating to the causes, control and prevention of water pollution.

APPLICATION: To obtain details concerning the various awards and to request forms for the submission of applications, write to:

Division of Grants Management
Office of Research and Development
Federal Water Pollution Control Administration
633 Indiana Avenue, N. W.
Washington, D. C. 20242

DISCRIMINATION PROHIBITED: Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance." Therefore, the Division of Grants Management of the Federal Water Pollution Control Administration, like every program or activity receiving financial assistance from the Department of the Interior, must be operated in compliance with this law.

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WATER POLLUTION CONTROL

RESEARCH AND TRAINING GRANTS

LIST OF 1967 AWARDS

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WATER POLLUTION CONTROL

RESEARCH AND TRAINING GRANT PROGRAM

SUMMARY OF AWARDS

FISCAL YEAR 1967

Grants	Number States	Number Institutions	Grants Awarded	Amount Awarded
Research Grants	41	117	243	$ 6,455,110
Demonstration Grants	32	64	70	3,028,252
Training Grants	37	58	71	2,908,842
Research Fellowships	24	46	103	622,411
ALL GRANTS	47	167	487	$13,014,615

WATER POLLUTION CONTROL

RESEARCH GRANTS FISCAL YEAR 1967

SUMMARY OF GRANT AWARDS BY STATES

State	Institutions and Agencies	Number Awarded	Amount Awarded
Alabama	1	1	$ 26,588
Alaska	1	2	54,750
Arizona	1	2	30,122
Arkansas	1	1	18,130
California	11	26	857,137
Colorado	2	3	69,189
Connecticut	1	2	27,110
District of Columbia	2	2	89,439
Florida	3	9	235,436
Georgia	2	3	50,114
Illinois	4	11	321,056
Indiana	3	4	60,056
Iowa	2	2	31,363
Kansas	4	6	99,061
Louisiana	1	0	7,870
Maine	2	3	52,286
Maryland	2	1	19,642
Massachusetts	4	11	309,723
Michigan	2	13	542,820
Minnesota	2	7	177,434
Mississippi	1	1	16,336
Missouri	2	4	94,556
Montana	2	4	99,415
New Hampshire	1	1	38,778
New Jersey	2	4	55,123
New Mexico	2	3	60,069
New York	11	29	650,738
North Carolina	3	2	106,444
Ohio	6	8	142,004
Oklahoma	2	4	101,618
Oregon	1	11	302,739
Pennsylvania	7	7	303,018
Rhode Island	1	3	64,622
South Carolina	2	4	129,218
Tennessee	2	3	69,443
Texas	8	14	263,520
Utah	2	3	32,769
Virginia	1	1	18,160
Washington	2	18	617,248
West Virginia	1	0	3,000
Wisconsin	2	5	120,453
Foreign	5	5	86,507
41 States	117	243	$6,455,110

Active Research Grants 1967

43 States 4 Foreign Countries
130 Institutions and Agencies
341 Research Grants

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WATER POLLUTION CONTROL

RESEARCH GRANTS

FISCAL YEAR 1967

LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
ALABAMA			
Auburn University Auburn			
Funderburk, H. Hanly, Jr., Ph.D. Dept. of Botany and Plant Pathology	Effect of Herbicides on an Aquatic Environment	WP-00636-03S1 WP-00636-04	$ 1,104 25,484
University of Alabama University			
Walters, James V., Ph.D. Dept. of Civil Engineering	Nematodes in Sewage and Sewage Treatment Facilities	WP-00055-03	_____*
ALASKA			
University of Alaska College			
Birkholz, Norman J., Ph.D. Dept. of Chemistry and Chemical Engineering	Organic Compounds in Alaska Permafrost Groundwaters	WP-01018-01	23,855
Dugdale, Richard C., Ph.D. Institute of Marine Science	Dynamics of the Nitrogen Cycle in Lakes	WP-00422-05	30,895
ARIZONA			
University of Arizona Tucson			
Bier, Milan, Ph.D. Dept. of Agricultural Biochemistry	Water Purification by Large Scale Electrophoresis	WP-00783-03	16,980
Croft, A. Russell, M.S. Dept. of Watershed Management	Rainstorm Debris Floods and Their Relation to the Public Health	WP-00953-01	_____*
McConnell, William J., Ph.D. Cooperative Fishery Unit	Limnological Effects of Organic Watershed Litter	WP-01015-01	13,142

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
ARIZONA			
University of Arizona Tucson			
McIntosh, Thomas H., Ph.D. Dept. of Agricultural Chemistry and Soils	Biological Effects of Waste Water on Soil Surfaces	WP-00672-03	_____*
ARKANSAS			
University of Arkansas Fayetteville			
Testerman, Maurice K., Ph.D. Dept. of Electronics and Instrumentation	A Continuous Multiparameter Water Quality Monitor	WP-00044-06	18,130
CALIFORNIA			
California Institute of Technology Pasadena			
Brooks, Norman H., Ph.D. W. M. Keck Laboratory	Dispersion in Hydrologic and Coastal Environments	WP-01256-01	69,415
Brooks, Norman H., Ph.D. W. M. Keck Laboratory	Dynamics of Density-Stratified Ground Water Flow	WP-00680-0381	6,543
McKee, Jack E., Ph.D. Dept. of Environmental Health	Mycological Phenomena in Sewage Spreading Basins	WP-00988-02	18,342
Morgan, James J., Ph.D. Division of Engineering and Applied Science	The Chemistry of Manganese in Natural Waters	WP-00941-02	40,465
Morgan, James J., Ph.D. Division of Engineering and Applied Science	Flocculation Behavior of Dilute Clay-Polymer Systems	WP-00942-02	_____*
North, Wheeler J., Ph.D. Division of Engineering and Applied Science	Marine Waste Disposal and Sea Urchin Ecology	WP-00697-03	20,574
Long Beach State College Foundation Long Beach			
Reish, Donald J., Ph.D. Dept. of Biology	Studies on Indicator Species of Marine Pollution	WP-00531-03	_____*

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
CALIFORNIA			
Los Angeles State College Foundation Los Angeles			
Anderson, Dean A., Ph.D. Dept. of Microbiology and Public Health	Bacteriology of Biodegradable Surfactants	WP-00961-02	9,500
Ludwig Engineering and Science Research Foundation Arcadia			
Ludwig, Harvey F., M.S. Dept. of Sanitary Engineering	Floc Strength and Filterability of Pretreated Water	WP-00813-02	11,819
Sacramento State College Foundation Sacramento			
Kerri, Kenneth D., Ph.D. School of Engineering	Complementary-Competitive Aspects of Water Storage	WP-01008-02	24,347
San Diego County San Diego			
England, Beatrice L., A.B. San Diego Public Health Laboratory	Quantitative Virologic Studies of Sewage	WP-01198-01	28,115
Sewage Treatment Laboratory Concord, City of			
Aitken, Thomas W., B.S. Sewage Treatment Laboratory	Systematic Phycology of an Oxidation Pond	WP-00638-03	_____*
Stanford University Stanford			
Franzini, Joseph B., Ph.D. Dept. of Civil Engineering	Further Studies of Infiltration	WP-00246-06	27,578
Linsley, Ray K., B.S. Dept. of Civil Engineering	Effects of Water Pollution in San Francisco Bay	WP-01194-01	31,651
McCarty, Perry L., Sc.D. Dept. of Civil Engineering	Algae Degradation in Waterways	WP-01037-01	27,433
McCarty, Perry L., Sc.D. Dept. of Civil Engineering	Anaerobic Waste Treatment Kinetics	WP-00584-03	_____*
McCarty, Perry L., Sc.D. Dept. of Civil Engineering	Pesticide Distribution and Degradation in Waterways	WP-00715-03	20,694

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
CALIFORNIA			
University of California Berkeley			
Fuerstenau, Douglas W., Sc.D. Dept. of Mineral Technology	Adsorption of Alkylaryl Surfactants on Polar Solids	WP-00692-03	26,505
Goren, Simon L. Dept. of Chemical Engineering	Preparation of Monodisperse Emulsions	WP-01068-01	24,785
Jenkins, David I., Ph.D. Division of Hydraulics and Sanitary Engineering	Transient Loading Effects in the Activated Sludge Process	WP-00787-03	32,974
Kaufman, Warren J. Division of Hydraulic Engineering	Orthokinetic Flocculation of Heterodispersed Systems	WP-00658-03	_____*
McGauhey, Percy H., M.S. Sanitary Engineering Research Laboratory	Economic Evaluation of Water Quality	WP-00597-04	24,059
McGauhey, Percy H., M.S. Sanitary Engineering Research Laboratory	Partial Demineralization of Saline Sewage by Ion Exchange	WP-00544-03	_____*
McGauhey, Percy H., M.S. Sanitary Engineering Research Laboratory	Soil Mantle as a Waste Water Treatment System	WP-00764-02S1 WP-00764-02S2	1,632 4,200
McGauhey, Percy H., M.S. Sanitary Engineering Research Laboratory	Travel of Synthetic Detergents With Percolating Water	WP-00207-06	_____*
Oswald, William J., Ph.D. Institute of Engineering Research	Kinetics of Algal Systems in Waste Treatment	WP-00975-01	40,144
Oswald, William J., Ph.D. Institute of Engineering Research	Nutritional and Disease Transmitting Potential of Sewage Grown Algae	WP-00026-05S1	3,000
Pearson, Erman A., Sc.D. Division of Hydraulic and Sanitary Engineering	Reaction Kinetics of Anaerobic Fermentation Systems	WP-00830-03	33,120
Selleck, Robert E., Ph.D. Division of Hydraulic and Sanitary Engineering	Estuarine Water Quality Interrelationships	WP-00649-02	_____*

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
CALIFORNIA			
University of California Davis			
Biggar, James W., Ph.D. Dept. of Irrigation	Sorption and Movement of Polluted Water in Soil	WP-00081-06	24,872
Goldman, Charles R., Ph.D. Dept. of Zoology	Limnology of Lake Tahoe Emphasizing Water Quality	WP-01188-01	116,911
Smith, Joe M., Sc.D. Dept. of Chemical Engineering	Photochemical Reaction in Water and Air Pollution	WP-00952-02	17,043
Watt, Kenneth E. F., Ph.D. Dept. of Zoology	Effects of Cover in Aquatic Predator-Prey Systems	WP-00929-02	11,733
University of California Los Angeles			
Graves, Glenn W., Ph.D. Graduate School of Business	A Mathematical Model for Regional Treatment	WP-01210-01	33,069
University of California Riverside			
Bradford, Gordon R., M.S. Dept. of Soils and Plant Nutrition	Effect of Trace Elements on Reuse of Water	WP-00484-03	_____*
University of the Pacific Stockton			
Smith, Edmund H., Ph.D. Pacific Marine Station	Environmental Biology of Tomales Bay	WP-01061-01S1 WP-01061-02	4,750 31,230
University of Southern California Los Angeles			
Bandy, Orville L., Ph.D. Dept. of Geology	Benthonic Foraminifera Relationship to Ocean Pollution	WP-00158-06	_____*
Foxworthy, James E., Ph.D. Allan Hancock Foundation	Eddy Diffusion and Bacterial Reduction in Waste Fields	WP-00931-02	48,198
Tibby, Richard B., Ph.D. Allan Hancock Foundation	Ultraviolet Absorption in Coastal Waters	WP-00762-03	42,436

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
COLORADO			
Colorado State University Fort Collins			
Hanan, Joe J., Ph.D. Dept. of Horticulture	Irrigation Regimes for Water Conservation	WP-00780-03	20,373
Morrison, S. M., Ph.D. Dept. of Pathology and Microbiology	Watershed Environment and Microbial Dynamics	WP-00679-03	_____*
Simons, Daryl B., Ph.D. Engineering Research Center	XIIth IAHR Congress and International Hydrologic Symposium	WP-01123-01	25,000
Ward, John C., Ph.D. Dept. of Civil Engineering	Turbulent Flow in Porous Media	WP-00914-01	_____*
University of Colorado Boulder			
West, Ronald E., Ph.D. Dept. of Chemical Engineering	The Effect of Porous Structure on Carbon Activation	WP-00853-03	23,816
CONNECTICUT			
University of Connecticut Storrs			
Collins, Ralph P., Ph.D. Dept. of Botany	Study of Microorganisms Inducing Tastes and Odors in Water	WP-00005-06	17,780
Trainor, Francis R., Ph.D. Dept. of Botany	A Study of Scenedesmus Species in Culture	WP-00850-03	9,330
DISTRICT OF COLUMBIA			
Individual			
Levine, Benjamin S., Ph.D. Washington	U.S.S.R. Literature on Water Supply and Pollution Control	WP-00305-07S1 WP-00305-08	1,500 20,619
Water Pollution Control Federation Washington			
Eckenfelder, W. W., M. S. Chairman, Finance Committee	3rd International Conference on Water Pollution Research	WP-00945-01	_____*
Fuhrman, Ralph E., D. Eng. Executive Secretary	Research Supplement - Journal Water Pollution Control Federation	WP-01125-01A1	67,320

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
FLORIDA			
Florida State Board of Health Jacksonville			
Patterson, Richard S., Ph.D. Midge Research Laboratory	Causes and Relief of Hypereutrophication of Lakes	WP-00216-06	_____*
Lackey, James B., Ph.D. Individual	Taxonomy and Ecology of Inshore Marine Microbiota	WP-00901-03	12,329
University of Florida Gainesville			
Calaway, Wilson T., B.S. Dept. of Entomology	Nematodes in Sewage Treatment and Their Significance	WP-00508-05	33,872
Nordlie, Frank G., Ph.D. Dept. of Zoology	Chemical and Biological Dynamics in Two Solution Lakes	WP-00530-03	_____*
Putnam, Hugh D., Ph.D. Dept. of Civil Engineering	Primary Production and Decomposition in Estuarine Water	WP-00678-03	22,634
Pyatt, Edwin E., Ph.D. Dept. of Civil Engineering	A Model for Quantifying Flow Augmentation Benefits	WP-01050-01	34,587
Singley, John E., Ph.D. Dept. of Bioenvironmental Engineering	Stoichiometry and Mechanisms of Coagulation	WP-01261-01	9,200
Smith, Paul H., Ph.D. Dept. of Bacteriology	Studies on the Methanogenic Bacteria in Sludge	WP-00198-07	27,782
Thornton, Edward B., Sc.D. Coastal Engineering Laboratory	Transversal Drifts in Bottom Profile	WP-00889-02	26,098
University of Miami Coral Gables			
Greenfield, Leonard J. Institute of Marine Science	Contribution of Microbial Calcification to Sediments	WP-00902-02	_____*
Idyll, C. P., Ph.D. Institute of Marine Science	Estuarine Ecology in Relation to Water Use	WP-00400-03	_____*
Moore, Hilary B., Ph.D. Institute of Marine Science	Biology of the Infauna Tropical Soft Bottom Area	WP-00573-04 WP-00573-04S1	36,159 3,563
Wood, Edward J. F., Sc.D. Institute of Marine Science	Periphyton of the Everglades; an Unpolluted System	WP-00709-03	29,212

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
GEORGIA			
Georgia Institute of Technology Atlanta			
Carstens, Marion R., Ph.D. Hydraulics Laboratory	Diffusivity of Particles in a Turbulent Field	WP-00912-02	12,374
Gates, William E., Ph.D. School of Civil Engineering	Relative Merits of Activated Sludge Design Models	WP-01133-01	30,642
Ingols, Robert S., Ph.D. Engineering Experiment Station	Biodegradation of Halogenated Phenolics	WP-00188-06	____*
O'Melia, Charles R., Ph.D. Engineering Science Laboratory	The Role of Zeta Potential in Sand Filtration	WP-00382-04	____*
Georgia State College Atlanta			
Singley, John E. Dept. of Chemistry	Stoichiometry and Mechanisms of Coagulation	WP-00717-03	7,098
ILLINOIS			
Eastern Illinois University Charleston			
Durham, Leonard, Ph.D. Dept. of Zoology	Biological Survey of Streams of Coles County, Illinois	WP-01114-01	20,080
Durham, Leonard, Ph.D. Dept. of Zoology	Recovery of a Stream System from Cyanide Poisoning	WP-00792-02	____*
Whitley, L. Stephen, Ph.D. Dept. of Zoology	The Systematics of the Tubificids of Illinois	WP-00937-02	11,931
Illinois Institute of Technology Chicago			
Grieves, Robert B., Ph.D. Dept. of Civil Engineering	Foam Separation Flotation of Colloid Organic Systems	WP-00702-03	34,512
Kintner, Robert C., Ph.D. Dept. of Chemical Engineering	Coalescence of Drops in Fibrous Beds	WP-00366-04	____*
Kintner, Robert C., Ph.D. Dept. of Chemical Engineering	Effects of Surfactants on Fibrous Bed Coalescing	WP-01021-01	28,972
Martell, Arthur E., Ph.D. Dept. of Chemistry	Permanganate Oxidation of Phenols and Aromatic Amines	WP-00744-03	9,803

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
ILLINOIS			
Northwestern University Evanston			
Pipes, Wesley O., Ph.D. Dept. of Civil Engineering	Ecology of Sphaerotilus in Activated Sludge	WP-00588-03	44,027
University of Illinois Urbana			
Austin, John H., Ph.D. Dept. of Civil Engineering	Oxygen Relationships in Small Streams	WP-01020-01	57,024
Dick, Richard I., Ph.D. Dept. of Civil Engineering	Mechanisms of Sludge Thickening	WP-01011-01	33,308
Engelbrecht, Richard S., Sc.D. Dept. of Civil Engineering	Contact Removal of Organic Matter by Microorganisms	WP-00640-03	_____*
Engelbrecht, Richard S., Sc.D. Dept. of Civil Engineering	Factors Influencing Free-Living Nematodes in Water	WP-00047-06	46,298
Evans, Ralph L. Illinois State Water Survey	Effect of Coarse Filter Media on Artificial Recharge	WP-00447-03	_____*
Ewing, Ben B., Ph.D. Dept. of Civil Engineering	Organo-Clay Absorptive Reaction and Water Coagulation	WP-00801-02	_____*
Larson, Thurston E., Ph.D. Illinois State Water Survey	Chromatographic Analysis for Organic Acids in Water	WP-00270-06	_____*
Larson, Thurston E., Ph.D. Illinois State Water Survey	Corrosion and Tuberculation in Distribution Systems	WP-00132-11	15,215
McPherson, Murray B. Dept. of Civil Engineering	Criteria for Analysis of Water Distribution Systems	WP-00526-02	_____*
Quinn, John A., Ph.D. Dept. of Chemistry and Chemical Engineering	Mass Transfer Through Interfaces	WP-00601-04	19,386
Speece, Richard E., Ph.D. Dept. of Civil Engineering	Controlling Factors in Methane Fermentation	WP-00394-04S1	500
INDIANA			
DePauw University Greencastle			
Gammon, James R., Ph.D. Dept. of Zoology	The Effect of Inorganic Sediment on Stream Ecosystems	WP-01044-01	7,217

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
INDIANA			
Purdue Research Foundation West Lafayette			
Greenkorn, Robert A., Ph.D. School of Chemical Engineering	Dispersion During Flow in Heterogeneous Porous Media	WP-01048-01	21,841
Kirsch, Edwin J., Ph.D. Dept. of Sanitary Engineering	Microbial Interactions in Waste Treatment Systems	WP-00760-03	20,238
Purdue University Lafayette			
Bloodgood, Don E. Dept. of Civil Engineering	Foreign Engineers and Scientists to Purdue Industrial Waste Conference	WP-00861-02	10,760
IOWA			
Iowa State University Ames			
Dodd, John D., Ph.D. Dept. of Botany and Plant Pathology	Ecology of Diatoms in Hardwater Habitats	WP-00221-07	8,844
Kirkham, Don, Ph.D. Dept. of Agronomy and Physics	Movement of Water from Waste Recharge Installations	WP-00070-05	_____*
Morgan, Paul E., M.S. Dept. of Civil Engineering	Design Requirements for Municipal Diatomite Filters	WP-00196-07	22,519
University of Iowa Iowa City			
McDonald, Donald B., Ph.D. Dept. of Civil Engineering	Factors Affecting Actinomycete (Fungi) Populations in Water	WP-00740-04	_____*
Smith, H. Sidwell, Ph.D. Dept. of Civil Engineering	Oxygen Use Rate in Activated Sludge Systems	WP-00695-02	_____*
KANSAS			
Kansas State Teachers College Emporia			
Prophet, Carl W., Ph.D. Dept. of Biology	Limnology of the John Redmond Reservoir, Kansas	WP-00615-04	14,960

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
KANSAS			
Kansas State University Manhattan			
Fan, Liang-Tseng, Ph.D. Dept. of Chemical Engineering	Optimal Design of Waste Treatment Systems	WP-01141-01	30,587
Lambert, Jack L., Ph.D. Dept. of Chemistry	Determination of Ammonia	WP-00235-06	5,831
Lambert, Jack L., Ph.D. Dept. of Chemistry	Ligand Exchange Reagents	WP-00326-06	10,074
University of Kansas Center for Research, Inc. Lawrence			
Loehr, Raymond C., Ph.D. Dept. of Civil Engineering	Aerobic Microbial Degradation of Lipids	WP-00341-05	16,780
Pfeffer, John T., Ph.D. Dept. of Civil Engineering	Trace Element Needs of Filamentous Microorganisms	WP-00646-03	_____*
University of Kansas Lawrence			
O'Brien, Walter J., Sc.D. Environmental Health Laboratory	Oxygen Consumption in Continuous Biological Culture	WP-01023-01	20,829
KENTUCKY			
Kentucky Research Foundation University of Kentucky Lexington			
Lauderdale, Robert A., Ph.D. Dept. of Civil Engineering	Removal of Pesticides from Water	WP-00467-02	_____*
LOUISIANA			
Louisiana State University Baton Rouge			
Colmer, Arthur R., Ph.D. Dept. of Bacteriology	Autotrophic Iron Oxidizers from Acid Waste Waters	WP-00549-03	_____*
West, Philip W., Ph.D. Dept. of Chemistry	Sampling and Determining Traces of Silver in Waters	WP-00788-02S1 WP-00788-02S2	3,540 4,330

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
MAINE			
Department of Inland Fisheries and Game Augusta			
Everhart, W. Harry, Ph.D. Dept. of Zoology	Effects of Chemical Variations in Aquatic Environments	WP-01145-01	12,761***
Everhart, W. Harry, Ph.D. Dept. of Zoology	Evolution of Allopatric Populations	WP-00888-02	2,233
University of Maine Orono			
Sproul, Otis J., Sc.D. Dept. of Civil Engineering	Effects of Chemical Ions on Virus Inactivation	WP-00387-04	35,169
Zieminski, Stefan A., D.Sc. Dept. of Chemical Engineering	Use of Chemical Additives to Improve Aeration Rates	WP-00562-04	14,884
MARYLAND			
The Johns Hopkins University Baltimore			
Geyer, John C., Ph.D. Dept. of Sanitary Engineering and Water Resources	Ground Water Storage Project	WP-00444-04S1	3,318
Renn, Charles E., Ph.D. Dept. of Environmental Science	Reducing Secondary Effluent Phosphorus Concentration	WP-00099-05	_____*
University of Maryland College Park			
Cookson, John T., Jr., Ph.D. Dept. of Civil Engineering	Virus Removal in Packed Beds by Mass Transfer	WP-00981-02	16,324
Marchello, Joseph M., Ph.D. Dept. of Civil Engineering	Role of Ripples and Molecular Films on Mass Transfer	WP-00323-05	_____*
MASSACHUSETTS			
Boston University Boston			
Jones, Galen E., Ph.D. Dept. of Biology	Effect of Organic Substances from Sea on Bacteria	WP-00650-03	_____*

*Active 1967 - Supported by funds awarded in previous years
*** Subsequently Withdrawn

LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
MASSACHUSETTS			
Harvard University Cambridge			
Dorfman, Robert, Ph.D. Dept. of Economics	The Economics of Water Supply and Quality	WP-00919-02	30,054
Mitchell, Ralph, Ph.D. Dept. of Water Resources and Sanitary Engineering	Degradation of Sewage and Soil Microorganisms	WP-00967-01	18,306
Stumm, Werner, Ph.D. Division of Engineering and Applied Physics	Chemical Aspects of Coagulation	WP-00098-06	19,379
Stumm, Werner, Ph.D. Division of Engineering and Applied Physics	Inhibition and Repression in Substrate Utilization	WP-00621-03A1	15,619
Stumm, Werner, Ph.D. Division of Engineering and Applied Physics	Modes of Corrosion Inhibition in Natural Waters	WP-00043-05	_____*
Stumm, Werner, Ph.D. Division of Engineering and Applied Physics	Oxygenation of Ferrous Iron in Natural Waters	WP-00013-07	_____*
Stumm, Werner, Ph.D. Division of Engineering and Applied Physics	Symposium on Concepts in Water Analysis	WP-00899-01	_____*
Thomas, Harold A., Jr., Sc.D. Dept. of Sanitary Engineering	Operations Research in Water Quality Management	WP-00111-05	83,173
Thomas, Harold A., Jr., Sc.D. Dept. of Sanitary Engineering	Transport and Fate of Pollutants in Soils	WP-00626-03	45,485
Massachusetts Institute of Technology Cambridge			
Harleman, Donald R., Sc.D. Dept. of Civil Engineering	Movement and Mixing of Water Injected into Aquifers	WP-01039-01	28,241
Harleman, Donald R., Sc.D. Dept. of Civil Engineering	Pollutants in Heterogeneous and Anisotropic Aquifers	WP-00711-02	_____*
McLaughlin, Ronald T., Ph.D. Dept. of Civil Engineering	Optimal Design of Sewer and Drainage Systems	WP-00812-02	_____*

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
MASSACHUSETTS			
Northeastern University Boston			
Goodman, Alvin S., Ph.D. College of Engineering	Data Collection Economics for Water Pollution Studies	WP-01090-01	14,148
Karger, Barry L., Ph.D. Dept. of Chemistry	Studies in Foam Separation and Related Techniques	WP-01129-01	16,906
University of Massachusetts Amherst			
Adrian, Donald D., Ph.D. Dept. of Civil Engineering	Source Control of Water Treatment Waste Solids	WP-01239-01	29,170
Cole, Charles F., Ph.D. Dept. of Forestry and Wildlife Management	Pesticide Residue Effects on Larval Marine Fishes	WP-01204-01	9,242
MICHIGAN			
Michigan State University East Lansing			
Ball, Robert C., Ph.D. Dept. of Fisheries and Wildlife	Serum Stress Patterns as Related to Stream Ecology	WP-00369-03	_____*
Fromm, Paul O., Ph.D. Dept. of Physiology	Toxic Action of Soluble Pollutants on Freshwater Fish	WP-00807-07	11,694
Knight, Allen W., Ph.D. W. K. Kellogg Biological Station	The Biology and Physiology of Aquatic Insects	WP-01178-01	33,388
University of Michigan Ann Arbor			
Ayers, John C., Ph.D. Great Lakes Research Division	A Coherent-Area Study of Southern Lake Michigan	WP-00311-04	268,370
Borchardt, J. A., Ph.D. Dept. of Civil Engineering	Organic Decomposition at Poised O-R Potential Levels	WP-00333-05	64,748
Borchardt, J. A., Ph.D. Dept. of Civil Engineering	Sand Filtration of Discrete Suspensions	WP-00329-05	1,557
Borchardt, J. A., Ph.D. Dept. of Civil Engineering	The Use of Algae in the Treatment of Sewage Effluents	WP-00155-08	_____*
Brater, Ernest F. Dept. of Civil Engineering	Rainfall-Runoff Relations on Urban and Rural Areas	WP-00834-03	13,044

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
MICHIGAN			
University of Michigan Ann Arbor			
Deininger, Rolf A. Dept. of Environmental Health	Investigation of Pumped Storage for Flow Augmentation	WP-00689-03	_____*
Gannon, John J. Dept. of Environmental Health	Biological Extraction and Accumulation in Streams	WP-00091-05	_____*
Mancy, Khalil H., Ph.D. School of Public Health	Oxygen Determination in Natural Waters and Wastes	WP-00886-02	17,196
Noble, Vincent E., Ph.D. Great Lakes Research Division	Vertical Current Structure in the Great Lakes	WP-00794-01	_____*
Noble, Vincent E., Ph.D. Great Lakes Research Division	Vertical Current Structure in the Great Lakes	WP-01067-01	22,908
Schultz, Jerome S., Ph.D. Dept. of Chemical and Metallurgical Engineering	Electrical Stimulation of Microbial Waste Treatment	WP-01257-01	43,464
Stoermer, Eugene F., Ph.D. Great Lakes Research Division	A Detailed Study of Lake Michigan Plankton Diatoms	WP-01005-01	25,483
Weber, Walter J., Jr., Ph.D. Dept. of Civil Engineering	Adsorption from Aqueous Solution	WP-00706-03	22,140
Weber, Walter J., Jr., Ph.D. Dept. of Civil Engineering	Interactions of Silica with Iron and Aluminum	WP-00674-02	15,828
Weber, Walter J., Jr., Ph.D. Dept. of Civil Engineering	Research Symposium on Adsorption from Aqueous Solution	WP-01132-01	3,000
MINNESOTA			
University of Minnesota Minneapolis			
Anderson, Alvin G. St. Anthony Falls Hydraulic Laboratory	Flow Conditions in Soils and Filters	WP-00796-01	_____*
Johnson, Walter K., Ph.D. Dept. of Civil Engineering	Nitrification and Denitrification of Waste Water	WP-01028-01	34,789
Olson, Theodore A., Ph.D. School of Public Health	Benthonic Invertebrates as an Index of Water Quality	WP-00320-05	28,547
Olson, Theodore A., Ph.D. School of Public Health	Lake Superior Periphyton in Relation to Water Quality	WP-00828-03	36,909

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
MINNESOTA			
University of Minnesota Minneapolis			
Shapiro, Joseph, Ph.D. Dept. of Geology and Geophysics	Inorganic-Organic Interactions in Natural Waters	WP-00771-03	31,728
Silberman, Edward, M.S. St. Anthony Falls Hydraulic Laboratory	The Role of Mixing in Maintaining Stratified Flow	WP-00913-02	18,705
Smith, Lloyd L., Jr., Ph.D. Dept. of Entomology, Wildlife and Fisheries	Effect of Paper Fiber Wastes on Fish Eggs and Juveniles	WP-00223-07 WP-00223-07S1	12,580 6,866
Winona State College Winona			
Fremling, Calvin R., Ph.D. Dept. of Biology	Mayfly Distribution as a Water Quality Index	WP-00987-02	7,310
MISSISSIPPI			
Gulf Coast Research Laboratory Ocean Springs			
Abbott, Walter, Ph.D. Marine Biology	Nutrient Assimilation Rates - Field Studies	WP-01030-01	16,336
MISSOURI			
Southwest Missouri State College Springfield			
Irgens, Roar Leif Dept. of Science	Microbiology of Sludge: DNA Analyses and N_2 Removal	WP-01110-01	19,120
University of Missouri Columbia			
Campbell, Robert S., Ph.D. Dept. of Zoology	Recovery from Acid Pollution in Four Strip Mine Lakes	WP-00379-05	32,745
Enns, Wilbur R., Ph.D. Dept. of Entomology	Insects Associated with Midwestern Oxidation Lagoons	WP-00718-03	15,886
Smith, George E., Ph.D. Dept. of Soils	Nitrates in Water Supplies	WP-00533-04	26,805

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
MISSOURI			
Washington University St. Louis			
Ryckman, D. W. Dept. of Civil and Environmental Engineering	Pesticide Detection and Bioassay Response in Water	WP-00946-01	_____*
Skrinde, Rolf T., Ph.D. Dept. of Environmental and Sanitary Engineering	Chemical Oxidation of Trace Organics in Water	WP-00346-03	_____*
MONTANA			
Montana State University Bozeman			
Berg, Lloyd, Ph.D. Dept. of Chemical Engineering	Terpenes from Sulfate Pulp Mill Waste Liquor	WP-00510-05	17,680
Brown, C. J. D., Ph.D. Dept. of Zoology and Entomology	Effects of Pollutants on Fish Blood Serum Patterns	WP-00438-02	_____*
Wright, John C., Ph.D. Dept. of Botany and Microbiology	The Hydrobiology of the Madison River and Its Headwaters	WP-00125-05	29,080
Wright, John C., Ph.D. Dept. of Botany and Microbiology	The Limnology of Yellowtail Reservoir and the Big Horn River	WP-01172-01	37,358
University of Montana Missoula			
Nakamura, Mitsuru, Ph.D. Dept. of Microbiology	Detection and Significance of Water Pollution by Animal Feces	WP-00824-02	15,297
NEW HAMPSHIRE			
University of New Hampshire Durham			
Slanetz, Lawrence W., Ph.D. Dept. of Microbiology	Enteric Bacteria and Viruses in Sewage, Water and Shellfish	WP-00009-11	38,778
NEW JERSEY			
Newark College of Engineering Newark			
Metzger, Ivan, Eng.Sc.D. Dept. of Civil Engineering	Effects of Fluid Properties on Stream Aeration	WP-01099-01	11,624

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
NEW JERSEY			
Princeton University Princeton			
Brush, Lucien M., Jr., Ph.D. Dept. of Civil Engineering	Inertial Effects in Turbulent Suspensions	WP-00772-02	_____*
Rutgers, The State University New Brunswick			
Faust, Samuel D., Ph.D. Dept. of Environmental Science	Organic Pesticides and Herbicides from Water	WP-00206-06	_____*
Finstein, Melvin S., Ph.D. Dept. of Environmental Sciences	Continuous Flow and Batch Cultures of Sphaerotilus	WP-00212-07	18,834
Moul, Edwin T., Ph.D. Dept. of Botany	Diatom Communities of the Raritan River System	WP-00949-02 WP-00949-02S1	15,399 994
Trama, Francesco B. Dept. of Zoology	Impoundment Studies on the Raritan River, New Jersey	WP-00059-06	8,272
NEW MEXICO			
Eastern New Mexico University Portales			
Sublette, James E., Ph.D. Dept. of Biological Sciences	Cytotaxonomy and Related Studies of Holarctic Midges	WP-00468-04 WP-00468-04S1	20,120 5,400
New Mexico State University University Park			
Clark, John W. Dept. of Civil Engineering	Continuous Monitoring of Some Organic Wastes	WP-00631-03	13,721
Speece, Richard E., Ph.D. Dept. of Civil Engineering	Controlling Factors in Methane Fermentation	WP-01001-02	20,828
NEW YORK			
Boyce Thompson Institute for Plant Research Yonkers			
Torgeson, Dewayne C., Ph.D. Bioregulant Chemicals	Interaction of Herbicides and Soil Microorganisms	WP-00750-03	28,173

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
NEW YORK			
City College Research Foundation New York			
Haines, Thomas H., Ph.D. Dept. of Chemistry	Structure and Function of a New Sulfolipid	WP-00675-04	22,600
Clarkson College of Technology Potsdam			
Goodrich, Frank C., Ph.D. Dept. of Chemistry	The Surface Shear Viscosity of Monomolecular Films	WP-00960-02	20,450
Jellinek, Hans H. G., Ph.D. Dept. of Chemistry	Photodegradation of Polymers in Aqueous Solutions	WP-00791-03	25,680
Matijevic, Egon, Ph.D. Dept. of Chemistry	Flocculation of Colloids Suspended in Water	WP-00815-03	21,960
Matijevic, Egon, Ph.D. Dept. of Chemistry	Second Workshop Seminar on Coagulation and Flocculation	WP-01131-01	2,500
Columbia University New York			
Linford, Henry B., Ph.D. Dept. of Chemical Engineering	Cationic Polymers as Flocculant Aids in Water	WP-00240-06	19,489
Littauer, Sebastian B. Dept. of Industrial and Management Engineering	Statistical Theory of Extreme Values and Their Application in Hydrology	WP-00457-05	13,993
Cornell University Ithaca			
Barlow, J[illegible] P., Ph.D. Division of Biological Sciences	Eutrophication of Tidal Waters	WP-00176-08S1 WP-00176-09	3,396 23,220
Behn, Vaughn C., Ph.D. Dept. of Sanitary Engineering	Application of Second Order Reaction	WP-00234-05	_____*
Dondero, Norman C., Ph.D. Dept. of Dairy and Food Science	Adaptation by Microbial Populations	WP-01034-01	19,383
Graf, Walter H., Ph.D. School of Civil Engineering	The Transport of Solid Suspension in Conduits	WP-00838-02	22,143
Liggett, James A., Ph.D. School of Civil Engineering	Mathematical Models of Hydrologic Systems	WP-00948-02	40,349
Liggett, James A., Ph.D. School of Civil Engineering	Settling Velocities in a Turbulent Environment	WP-00605-03	_____*

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
NEW YORK			
Manhattan College Bronx			
Farrell, Joseph B., Ph.D. Dept. of Chemical Engineering	Prevention of Chromate Pollution by Electrodialysis	WP-00742-02	_____*
Jeris, John S., Sc.D. Dept. of Civil Engineering	The Biochemistry of Anaerobic Digestion	WP-00577-04	26,968
O'Connor, Donald J., Sc.D. Dept. of Civil Engineering	Estuarine Water Quality and Pollution	WP-00677-02	_____*
New York University Bronx			
Mehr, Emanuel, M.A. Dept. of Meteorology and Oceanography	Computer Simulation of Dye Dump Studies	WP-00662-03	16,319
Molof, Alan, Ph.D. Dept. of Civil Engineering	Cation Effects in Anaerobic Waste Treatment	WP-00690-03	_____*
Polytechnic Institute of Brooklyn Brooklyn			
Bruins, Paul F., Ph.D. Dept. of Chemistry	Advance Waste Treatment by Ultrafiltration	WP-00620-03	31,468
Rensselaer Polytechnic Institute Troy			
Washington, Donald R., Ph.D. Dept. of Civil Engineering	Oxygen Utilization in Concentrated Microbial Systems	WP-00876-02	27,000
Research Foundation of State University of New York Albany			
Dence, Carlton W. Dept. of Pulp and Paper Technology	Composition of Residues from Pulp Bleaching Treatments	WP-01038-01	17,411
Rumer, Ralph R., Jr., Sc.D. Dept. of Civil Engineering	Dynamic Model Study of Lake Erie	WP-00837-02	53,226
Storr, John F., Ph.D. Dept. of Biology	Ecology of Polluted and Nonpolluted Lake Communities	WP-01065-02	19,138

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
NEW YORK			
Syracuse University Syracuse			
Jackson, Daniel F., Ph.D. Dept. of Civil Engineering	Investigation of Bloom-Producing Algae	WP-00782-03	15,733
Kramer, James R., Ph.D. Dept. of Geology	Mineral-Water Chemistry, Great Lakes	WP-00868-02	24,230
Li, Wen-Hsiung, Ph.D. Dept. of Civil Engineering	Transverse Dispersion of Contaminant in Groundwater	WP-00575-04	19,499
Lundgren, Donald G. Dept. of Bacteriology and Botany	Physiology and Culture of Iron Oxidizing Bacteria	WP-00548-05 WP-00548-05S1-A1	21,617 1,560
Nemerow, Nelson L., Ph.D. Dept. of Civil Engineering	Allocation of Stream Pollution Carrying Capacity	WP-01089-01	22,598
Tien, Chi, Ph.D. Dept. of Chemical Engineering and Metallurgy	A Study of the Aeration Process in Non-Newtonian Media	WP-00719-03	13,980
Tien, Chi, Ph.D. Dept. of Chemical Engineering and Metallurgy	Atomization and Drop Size of Non-Newtonian Fluid	WP-00867-02	15,908
Tien, Chi, Ph.D. Dept. of Chemical Engineering and Metallurgy	Mass Transfer Analysis in Reverse Osmosis Operation	WP-00968-01A1	17,475
Tien, Chi, Ph.D. Dept. of Chemical Engineering and Metallurgy	The Effect of Gas Bubble Motion on Fluid Mixing in Aeration Process	WP-00922-02	16,698
Turian, Raffi M., Ph.D. Dept. of Chemical Engineering and Metallurgy	Pipeline Flow of Solids-Liquid Suspensions	WP-01122-01	26,574
NORTH CAROLINA			
Duke University Durham			
Bryan, Edward H., Ph.D. Dept. of Civil Engineering	Biochemical Utilization of Chemically Combined Oxygen	WP-00316-05	_____*
Menzies, Robert J., Ph.D. Dept. of Zoology	A Comparative Study of Marine Life at Varying Depths	WP-00936-01S1	23,906

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
NORTH CAROLINA			
North Carolina State University Raleigh			
Horton, Donald B., Ph.D. Resident Director, Dept. of Zoology	Phosphate Mining Effluent in Estuarine Ecology	WP-00958-02	63,989
University of North Carolina Chapel Hill			
Lamb, James C., III, Sc.D. Dept. of Environmental Science and Engineering	Design Criteria for Final Tank and Sludge Thickeners	WP-00569-03	_____*
Mah, Robert A., Ph.D. Dept. of Environmental Science and Engineering	Microbiology of Anaerobic Sludge	WP-00921-02	18,549
Okun, Daniel A., Sc.D. Dept. of Environmental Science and Engineering	Oxygen in Waste Treatment	WP-00131-10	_____*
Weiss, Charles M., Ph.D. Dept. of Environmental Science and Engineering	Direct Gas Chromatography of Organics in Water	WP-00563-02	_____*
OHIO			
Case Institute of Technology Cleveland			
Sparks, Robert E., Ph.D. Division of Engineering	Emulsion Braking by Coalescence on Adsorbed Films	WP-00854-03	24,918
Kenyon College Gambier			
Pappenhagen, James M., Ph.D. Dept. of Chemistry	Determination of Ions in Wastes and Waters	WP-00137-12	10,128
Ohio State University Columbus			
Dugan, Patrick R., Ph.D. Dept. of Microbiology	Concentration of Chemicals by Floc Forming Organisms	WP-00713-02	19,280
Ohio State University Research Foundation Columbus			
Smith, Edwin E., Ph.D. Dept. of Chemical Engineering	Study of the Sulfide-to-Sulfate Reaction Mechanism	WP-00340-06	24,674

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
OHIO			
Ohio State University Research Foundation Columbus			
Taft, Clarence E., Ph.D. Dept. of Botany and Plant Pathology	The Diatoms of the West End of Lake Erie	WP-00317-05	_____*
University of Cincinnati Cincinnati			
Eye, J. David Dept. of Civil Engineering	Field Evaluation of Extended Aeration Plants	WP-00693-03	22,836
Lemlich, Robert, Ph.D. Dept. of Chemical Engineering	Foam Fractionation with Reflux	WP-00161-08	9,440
Lemlich, Robert, Ph.D. Dept. of Chemical Engineering	Non-Foaming Bubble Fractionation	WP-00814-02	_____*
Scarpino, Pasquale V., Ph.D. Dept. of Civil Engineering	Factors Influencing the Survival of Bacteria in Sea Water	WP-00844-03	18,788
University of Toledo Research Foundation Toledo			
Bennett, Gary F., Ph.D. Dept. of Chemical Engineering	Oxygen Transfer Rates Through Biological Slimes	WP-00822-02	11,940
OKLAHOMA			
Oklahoma State University Stillwater			
Gaudy, Anthony F., Jr., Ph.D. School of Civil Engineering	Kinetics and Mechanism in Activated Sludge Processes	WP-00325-05	28,042
Gaudy, Anthony F., Jr., Ph.D. School of Civil Engineering	Metabolic Control Mechanisms in Biological Treatment	WP-00786-03	25,908
Gaudy, Anthony F., Jr., Ph.D. School of Civil Engineering	Response of Activated Sludge to Organic Shock Loads	WP-00075-06	24,636
University of Oklahoma Norman			
Klehr, Edwin H., Ph.D. Dept. of Civil Engineering and Environmental Sciences	Mixed Resin Sampler Kit for Analysis of Polluted Waters	WP-00373-03	_____*
Reid, George W., M.S. School of Civil Engineering	Evaluation of Dispersed Pollutional Load	WP-01193-01	23,032

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
OREGON			
Oregon State University Corvallis			
Bond, Carl E., Ph.D. Dept. of Fisheries and Wildlife	Relation of Nuisance Algae to Fishes in Klamath Lake	WP-00625-03	_____*
Burgess, Fred J., M.S. Engineering Experiment Station	Pulp Mill Effluent Disposal	WP-00524-04	26,522
Castle, Emery N., Ph.D. Dept. of Agricultural Economics	An Economic Evaluation of Water Pollution Control	WP-00107-04	_____*
Freed, Virgil H., Ph.D. Dept. of Agricultural Chemistry	Chemical Brush Control: Biochemistry and Toxic Hazard	WP-00477-05	25,038
Goulding, Robert L., Ph.D. Dept. of Entomology	Macro-Fauna in Waste Stabilization Lagoons	WP-00923-02	12,756
Hall, James D., Ph.D. Dept. of Fisheries and Wildlife	Studies on Effects of Watershed Practices on Streams	WP-00423-05	33,042
Marvell, Elliot N., Ph.D. Dept. of Chemistry	Components of Kraft Mill Wastes and Their Toxicities	WP-00079-09	_____*
Pacha, Robert E., Ph.D. Dept. of Microbiology	Studies on Aquatic Myxobacteria	WP-00925-02	11,610
Phinney, Harry K., Ph.D. Dept. of Botany	The Autecology of Some Blue-Green Plankton Algae	WP-00666-03	17,644
Pritchard, Austin W., Ph.D. Dept. of Zoology	Acclimation of Fish to Pollution-Related Low Oxygen	WP-00493-03	_____*
Schroeder, Herbert A., D.Sc. Forest Research Laboratory	Lignin Sulfonates in Pulp Mill Effluents	WP-00823-03	25,494
Seaders, John, M.S. Dept. of Civil Engineering	Factors Influencing Temperature and Stream Quality	WP-00684-04	16,520
Slotta, Larry S., Ph.D. Dept. of Civil Engineering	Stratified Reservoir Currents	WP-00983-02 WP-00983-02S1 WP-00983-02S2	28,688 5,600 54,037
Warren, Charles E., Ph.D. Dept. of Fisheries and Wildlife	Dissolved Oxygen Requirements of Freshwater Fish	WP-00135-12	22,882
Warren, Charles E., Ph.D. Dept. of Fisheries and Wildlife	Ecological Studies of an Experimental Stream	WP-00157-09	22,906

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
PENNSYLVANIA			
Academy of Natural Science Philadelphia			
Patrick, Ruth, Ph.D. Dept. of Limnology	The Effect of Specific Chemicals on Diatom Populations	WP-00475-04	102,914
Carnegie Institute of Technology Pittsburgh			
Bugliarello, George, Sc.D. Dept. of Civil Engineering	A Synthetic Computer Language for Sanitary Engineering	WP-00415-05 WP-00415-05S1	26,583 8,684
Drexel Institute of Technology Philadelphia			
Remson, Irwin, Ph.D. Dept. of Civil Engineering and Mechanics	Radial Flow of Soil Moisture	WP-00820-02	31,363
Lehigh University Bethlehem			
Coughlin, Robert W., Ph.D. Dept. of Chemical Engineering	Effect of Surface Groups on Adsorption of Pollutants	WP-00969-02	23,068
Parker, Basil W., Ph.D. Dept. of Biology	Thermal and Industrial Pollution: Delaware River	WP-00885-02	21,598
Mellon Institute Pittsburgh			
Baker, Robert A. Dept. of Environmental Science	Detection of Phenolics in Water	WP-00957-01	_____*
Pennsylvania Military College Chester			
Wise, Donald L., Ph.D. Dept. of Engineering	Diffusion Coefficients of Gases in Liquids	WP-00671-02S1	3,838
Regional Science Research Institute Philadelphia			
Isard, Walter, Ph.D. President	Economics of Water Quality for a Regional System	WP-00938-02	61,560

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
PENNSYLVANIA			
University of Pittsburgh Pittsburgh			
Cummins, Kenneth K., Ph.D. Dept. of Biology	The Microdistribution of Stream Benthos	WP-00525-04	23,410
Shapiro, Maurice A., Ph.D. Dept. of Public Health Practices	Determination of Organic Matter in Water	WP-00473-03	_____*
RHODE ISLAND			
University of Rhode Island Kingston			
Conover, John T., Ph.D. Narragansett Marine Laboratory	Production of Pro- and Anti-Bacterials by Marine Algae	WP-00100-05	_____*
Conover, John T., Ph.D. Graduate School of Oceanography	The Effects of Pollution on Benthic Marine Plant Communities	WP-00755-03	21,625
Jeffries, Harry P., Ph.D. Dept. of Oceanography	Chemical Responses by Marine Organisms to Stress	WP-00858-02	24,022
Marshall, Nelson Graduate School of Oceanography	Sensitivity of Benthic Microflora to Pollution Gradients	WP-01220-01	18,975
SOUTH CAROLINA			
Clemson University Clemson			
Andrews, John F., Ph.D. Dept. of Civil Engineering	Growth Characteristics of the Methane Bacteria	WP-00622-03	_____*
Andrews, John F., Ph.D. Dept. of Civil Engineering	Kinetics of Biological Filters	WP-01181-01	26,190
Barlage, William B., Jr., Ph.D. Dept. of Chemical Engineering	The Effect of Surface-Active Agents on Gas Absorption	WP-00911-02	20,386
University of South Carolina Columbia			
Davis, Milton W., Jr., Ph.D. Dept. of Chemical Engineering	Purification of Industrial Wastes by Ion Exchange	WP-00595-03	29,020
Nelson, Bruce W., Ph.D. Dept. of Geology	Chemical Exchanges Across Sediment-Water Interfaces	WP-00651-04	53,622

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
SOUTH DAKOTA			
South Dakota School of Mines and Technology Rapid City			
Smith, Ross W. Dept. of Metallurgy	Adsorption of Surfactants on Selected Minerals	WP-00611-02	____*
TENNESSEE			
University of Tennessee Knoxville			
Bunting, Dewey L., Ph.D. Dept. of Zoology and Entomology	Effects of Water Pollution on Zooplankton	WP-00927-02	11,617
Vanderbilt University Nashville			
Fisher, Gerald T., Ph.D. Dept. of Chemical Engineering	Oxygen Absorption in Organic Aqueous Mixtures	WP-00871-02	____*
Krenkel, Peter A., Ph.D. Dept. of Civil Engineering	Turbulent Diffusion and River Waste Assimilative Capacity	WP-00328-05	____*
Malaney, George W., Ph.D. Dept. of Civil Engineering	Activated Sludge as an Ecological System	WP-00816-02 WP-00816-02S1	17,748 7,200
Schnelle, Karl B., Ph.D. Dept. of Civil Engineering	Dewatering and Drying of Sewage Sludge on Porous Media	WP-01053-01	32,884
Webb, M. Roger Dept. of Civil Engineering	Determination of Transition Zones in Settling Basins	WP-00039-04	____*
TEXAS			
Baylor University Waco			
Davidson, Floyd F., Ph.D. Dept. of Biology	Toxic Properties of the Blue-Green Algae	WP-00002-12	4,630
North Texas State University Denton			
Schlichting, Harold E., Jr., Ph.D. Dept. of Biology	Effects of Domestic Pollution upon Periphyton	WP-00604-03	____*

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
TEXAS			
North Texas State University Denton			
Silvey, Joseph K., Ph.D. Dept. of Biology	An Investigation of Aquatic Actinomycetes (Fungi)	WP-00805-03	16,683
Silvey, Joseph K., Ph.D. Dept. of Biology	Naturally Occurring Tastes and Odors in Water Supplies	WP-00785-03	15,860
Stewart, Kenneth W., Ph.D. Dept. of Biology	Dispersal of Viable Algae and Protozoa	WP-00855-02	8,858
Texas A & M Research Foundation College Station			
Martell, Arthur E., Ph.D. Dept. of Chemistry	Permanganate Oxidation of Phenols and Aromatic Amines	WP-01197-01	21,172
Ray, Sammy M., Ph.D. Dept. of Oceanography and Meteorology	Conference on Pollution and Marine Ecology	WP-00900-01	_____*
Texas A & M University College Station			
Smerdon, Ernest T., Ph.D. Water Resources Institute	Water Pollution From Eroded Sediments	WP-00757-03	23,052
Texas Research Foundation Renner			
Correll, Donovan S., Ph.D. Botanical Laboratory	Aquatic Plants of Polluted Waters in the Southwest United States	WP-00685-03 WP-00685-03S1	37,237 4,597
Texas Technological College Lubbock			
Grubb, Herbert W., Ph.D. Dept. of Agricultural Economics	Economics of Multipurpose Playa Lake Modification	WP-00775-02	5,321
University of Texas Austin			
Beightler, Charles S., Ph.D. Dept. of Mechanical Engineering	Use of New Analytical Methods for Water Resources Development	WP-01186-01	17,201

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
TEXAS			
University of Texas Austin			
Bold, Harold C., Ph.D. Dept. of Botany	An Investigation of Texas Soil Algae	WP-01057-07	20,631
Copeland, B. J., Ph.D. Institute of Marine Science	Effects of Rivers on the Metabolism of Texas Bays	WP-00811-02 WP-00811-02S1	23,328 1,800
Gloyna, Ernest F., Dr.Engr. Dept. of Civil Engineering	Effect of Toxic Organics on Waste Stabilization	WP-00688-03	11,877
Himmelblau, David M., Ph.D. Dept. of Chemical Engineering	Gas Transport Through Monolayers on Reservoirs	WP-00652-03	_____*
Masch, Frank D., Ph.D. Dept. of Civil Engineering	Mixing and Dispersion of Contaminants in Reservoirs	WP-00705-02	25,226
University of Texas Medical Branch Galveston			
Smith, Leland L., Ph.D. Dept. of Biochemistry	Sterols and Lipids in Water Pollution	WP-01003-01	26,047
UTAH			
University of Utah Salt Lake City			
Gaufin, Arden R., Ph.D. Dept. of Zoology and Entomology	Bio-Assays of the Toxicity of Pesticides to Aquatic Invertebrates	WP-00003-12	10,668
Gaufin, Arden R., Ph.D. Dept. of Zoology and Entomology	Production of Taste and Odor Producing Algae in Reservoirs	WP-00334-06	6,792
Utah State University Logan			
Neuhold, John M., Ph.D. Dept. of Wildlife Resources	Halide Water Quality Toxicity Effects on Fish	WP-00768-03	15,309
VIRGINIA			
Virginia Institute of Marine Science Gloucester Point			
Brehmer, Morris L., Ph.D. Dept. of Ecology-Pollution	Toxicity of Industrial Wastes to Marine Organisms	WP-00035-04	_____*

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
VIRGINIA			
Virginia Polytechnic Institute Blacksburg			
Walker, William R., L.L.B. Water Resources Research Center	Water Rights Related to Water Quality Storage	WP-01087-01	18,160
WASHINGTON			
University of Washington Seattle			
Allan, G. Graham, Ph.D. College of Forestry	Pollution Abatement by Fiber Modification	WP-01166-01	35,508
Anderson, George C., Ph.D. Dept. of Oceanography	Annual Phytoplankton Production in Puget Sound Waters	WP-00633-04	41,476
Bevan, Donald E., Ph.D. College of Fisheries	Estuarine Ecology	WP-00642-03	75,222
Carlson, Dale A., Ph.D. Dept. of Civil Engineering	Waste Water Odor Reduction Mechanisms in Soil Filters	WP-00883-02	29,675
Christman, Russell F., Ph.D. Dept. of Civil Engineering	Chemical Characteristics of Organic Color in Water	WP-01031-01	26,184
English, Thomas S., Ph.D. Dept. of Oceanography	Distribution of Demersal Fishes in Inshore Waters	WP-00803-02S1 WP-00803-03	2,581 33,095
Gessel, Stanley P., Ph.D. College of Forestry	Influence of Forest Ecosystems on Water Quality	WP-00743-03	21,823
Katz, Max, Ph.D. College of Fisheries	Sublethal Amounts of Organic Insecticides and Fish	WP-00956-02	22,834
McCarthy, Joseph L., Ph.D. Dept. of Chemical Engineering	Studies of Low Molecular Weight Lignin Sulfonates	WP-00628-03	22,897
McCarthy, Joseph L., Ph.D. Dept. of Chemical Engineering	Unique Determination of Lignin Sulfonates in Water	WP-00627-03	____*
Nece, Ronald E., Sc.D. Dept. of Civil Engineering	Salt Water Entrainment for Dilution of Sewer Outfalls	WP-00512-04	12,960
Scott, David R., Ph.D. College of Forestry	Water Relationships in High Altitude Forests	WP-00720-03	12,205
Smith, Lynwood S., Ph.D. Fisheries Research Institute	Responses of Fish to Environmental Stress	WP-01056-01S1 WP-01056-02 WP-01056-02S1	64,217 49,408 29,800

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
WASHINGTON			
University of Washington Seattle			
Taub, Frieda B., Ph.D. College of Fisheries	Biological Models of Freshwater Communities	WP-00982-02	25,768
Washington State University Pullman			
Bennett, Paul J., B.S. Sanitary Engineering Section	Water Reclamation by Reverse Osmosis	WP-00624-04	18,070
Dunstan, Gilbert H., M.S. Sanitary Engineering Section	Occurrence of Pesticides in Aquatic Environments	WP-00676-04	35,102
Kittrick, James A., Ph.D. Dept. of Agronomy	Clay Mineral Stability and Water Composition	WP-01016-01	17,480
May, Donald S., M.S. College of Engineering	The Ecology of Chromatium in Sewage Ponds	WP-00727-02	_____*
Parker, Richard A., Ph.D. Dept. of Zoology	Some Aspects of Microcrustacean Phosphate Metabolism	WP-00903-06	17,040
Stahl, John B., Ph.D. Division of Industrial Research	The Effects of the Benthos on Decomposition	WP-00668-02	_____*
Stokes, Jacob L., Ph.D. Dept. of Bacteriology and Public Health	The Biology and Chemistry of Sphaerotilus	WP-00239-06	23,963
WEST VIRGINIA			
West Virginia University Morgantown			
Gerencser, Vincent F., Ph.D. Dept. of Microbiology	Studies on Aquatic Stalked Bacteria	WP-00616-03S1	3,000
Wen, C. Y., Ph.D. Dept. of Chemical Engineering	Mass Transfer and Chemical Reaction in Water Pollution	WP-00699-02	_____*
WISCONSIN			
Marquette University Milwaukee			
Zanoni, Alphonse E., Ph.D. Dept. of Civil Engineering	Effluent Deoxygenation at Different Temperatures	WP-00829-02	16,347

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
WISCONSIN			
University of Wisconsin Madison			
Blum, John L., Ph.D. Dept. of Botany	Response of Tolerant Organisms to Specific Pollutants	WP-00857-02	_____*
Chesters, Gordon, Ph.D. Dept. of Soils	Herbicide Removal Processes in Soil	WP-00751-03	28,487
Fitzgerald, George P., Ph.D. Dept. of Civil Engineering	Detection of Limiting and Surplus Nutrients in Algae	WP-00297-06	25,222
Lee, G. Fred, Ph.D. Dept. of Civil Engineering	Concentration of Organic Solutes in Water	WP-00371-02S1 WP-00371-03	1,045 24,259
Rohlich, Gerard A., Ph.D. Dept. of Civil Engineering	Investigation of Zoogleal Flocs	WP-00905-02	25,093
Villemonte, James R., Ph.D. Dept. of Civil Engineering	Hydraulic Characteristics of Circular Sedimentation Basins	WP-00183-06	_____*
Weckel, Kenneth G., Ph.D. Dept. of Dairy and Food Industries	Cannery In-Plant Waste Losses and Their Control	WP-00535-03	_____*
FOREIGN			
AUSTRALIA			
Melbourne Water Science Institute Melbourne			
Parker, Cecil D. Director	Function of Solids in Lagoon Treatment of Sewage	WP-00321-05	15,923
University of Sydney Sydney			
Hawke, John G., Ph.D. Dept. of Pharmacy	Effect of Surface Films on Gases Dissolved in Water	WP-00877-02	10,350
CANADA			
British Columbia Research Council Vancouver, British Columbia			
Walden, Cecil C., Ph.D. Dept. of Applied Biology	Studies on Acidophilic Chemautotrophic Bacteria	WP-00550-01	_____*

* Active 1967 - Supported by funds awarded in previous years

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LOCATION AND INVESTIGATOR	PROJECT TITLE	GRANT NO.	AMOUNT
FOREIGN			
CANADA			
University of Toronto Toronto			
Brinkhurst, Ralph O., Ph.D. Dept. of Zoology	Taxonomy and Biology of Tubificidae (Sludge Worms)	WP-00940-02	19,090
University of Waterloo Waterloo, Ontario			
Csanady, Gabriel T., Ph.D. Dept. of Mechanical Engineering	Big Eddies and Mixing Processes in the Great Lakes	WP-01139-01	38,415
ENGLAND			
University College London			
Ives, Kenneth J., Ph.D. Dept. of Civil Engineering	Multilayer Filtration	WP-00832-02	2,729
JAPAN			
Okayama University Tsushima, Okayama City			
Kobayashi, Jun, Dr.Sc. Ohara Institute for Agricultural Biology	Strange Osteomalacia by Pollution from Cadmium Mining	WP-00359-04	_____*

* Active 1967 - Supported by funds awarded in previous years

WATER POLLUTION CONTROL

DEMONSTRATION GRANTS FISCAL YEAR 1967

SUMMARY OF GRANT AWARDS BY STATES

State	Institutions and Agencies	Number Awarded	Amount Awarded
Alaska	1	1	$ 11,630
Arizona	2	2	160,712
California	9	9	488,672
Colorado	1	1	35,300
Connecticut	1	1	40,419
District of Columbia	3	4	187,723
Florida	3	3	237,356
Illinois	1	1	38,625
Indiana	2	2	37,994
Iowa	1	1	22,712
Kansas	1	1	19,366
Louisiana	1	1	25,838
Maryland	1	2	40,059
Massachusetts	1	1	20,000
Michigan	4	5	212,232
Minnesota	3	3	131,185
Missouri	1	1	48,257
New Jersey	3	4	291,772
New Mexico	1	1	15,500
New York	5	5	275,887
North Dakota	1	2	32,750
Ohio	4	4	144,150
Oklahoma	1	1	12,340
Oregon	1	1	28,985
Pennsylvania	2	2	97,188
Tennessee	1	1	25,020
Texas	2	2	28,380
Utah	1	3	103,158
Virginia	2	1	34,371
Washington	2	2	52,585
Wisconsin	1	1	95,578
Wyoming	1	1	32,508
32 States	64	70	$3,028,252

Active Demonstration Grants 1967

33 States
68 Institutions and Agencies
76 Demonstration Grants

DEMONSTRATION GRANTS

FISCAL YEAR 1967

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
ALASKA			
University of Alaska College			
Murphy, R. Sage Assoc. Prof. of Environmental Health Engineering	Evaluation of an Oxidation-Ditch Waste Water Treatment Plant in Sub-Arctic Alaska	WPD 207-01-67	11,630
ARIZONA			
City of Tucson Tucson			
Beermann, Paul Director, Dept. of Water and Sewers	Tucson Wastewater Reclamation Project	WPD 108-03-67	115,812
Salt River Project Phoenix			
Shipley, Henry Assistant General Manager	Spreading Treated Sewage for Groundwater Recharge	WPD 140-01-67	44,900
CALIFORNIA			
City and County of San Francisco San Francisco			
Geertz, Clifford City Engineer	Feasibility of Control Measures for Treatment of Overflows from Combined Sewers	WPD 112-01-66	____*
City of San Diego San Diego			
Cook, Leland, Jr. Superintendent, Utilities Dept.	Sewage Odor Control by Liquid-Gas Extraction	WPD 135-01-67	33,952

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
CALIFORNIA			
City of San Jose San Jose			
Belick, Frank M. Engineer-Superintendent	Reducing Waste Activated Sludge Volume by Anaerobiosis	WPD 129-02-67	25,500
County of Sonoma Santa Rosa			
Head, Donald B. Sanitation Engineer	Evaluation of External Sealing Method to Reduce Infiltration in Sewage Systems	WPD 111-01-66	____*
Eastern Municipal Water District Hemet			
Boen, Doyle F. General Manager and Chief Engineer	Reutilization of Wastewater Recycled through Ground Water	WPD 81-03-67	32,665
Lake Tahoe Area Council South Lake Tahoe			
McGauhey, P. H. Chairman, Board of Consultants	Demonstration Project on Eutrophication of Surface Waters - Lake Tahoe	WPD 48-02-67	74,000
Los Angeles County Los Angeles			
Lambie, John A. County Engineer	Wastewater Reclamation Project for Antelope Valley	WPD 50-04-67	65,400
Orange County Water District Santa Ana			
Owen, Langdon W. District Engineer	Reclamation of Wastewaters for Injection Underground	WPD 110-02-67	78,700
Sacramento County Dept. of Public Works Sacramento			
Wanderer, W. C., Jr. Chief, Utilities Division	Primary Treatment and Sludge Dewatering by Vibrating Screens	WPD 177-01-67	66,755

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
CALIFORNIA			
South Tahoe Public Utility District Bijou			
Priday, W. F. Manager	Coagulant Recovery, Nitrogen Removal, and Carbon Regeneration in Wastewater Reclamation	WPD 85-02-66	_____*
Stanford University Stanford			
Eliassen, Rolf Prof. of Civil Engineering	Reclamation of Reusable Water From Sewage	WPD 21-05-67	45,000
State of California Water Resources Sacramento			
Beck, Louis A. Sanitary Engineer	Nutrient Removal From Agricultural Waste Waters	WPD 143-01(R2)-67	66,700
COLORADO			
Beet Sugar Development Foundation Fort Collins			
Fischer, James H. Manager	Treatment of Beet Sugar Wastes in Facultative and Algae Ponds	WPD 93-03-67	35,300
CONNECTICUT			
University of Connecticut Storrs			
Klei, Herbert E. Asst. Prof., Dept. of Chemical Engineering	Automatic Control of a Completely Mixed Activated Sludge Reactor	WPD 175-01-67	40,419
DISTRICT OF COLUMBIA			
League of Women Voters Education Fund			
Whittemore, Arthur E., (Mrs.) Trustee, Chairman of Water Resources Projects	Schools for Citizens on the Use of Water for Tomorrow's Living	WPD 62-04-67	48,300

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
DISTRICT OF COLUMBIA			
National Association of Counties Research Foundation			
Hillenbrand, Bernard F. Executive Director	Public Officials Water Pollution Control Demonstration Project	WPD 55-04-67	100,000
Water Pollution Control Federation			
Burke, George W., Jr. Manager of Technical Services	Aids for Wastewater Systems Personnel Safety and Advancement	WPD 159-01-67	25,000
Burke, George W., Jr. Manager of Technical Services	Development of Lecture Guides for Wastewater Treatment Plant Operators	WPD 45-02-67	14,423
FLORIDA			
City of Gainesville Gainesville			
Black, A. P. Research Professor Emeritus	Disinfectant and Physiological Effects of Iodine for Treatment of Polluted Water Supplies	WPD 19-05-67	73,000
Florida Atlantic Ocean Sciences Institute, Inc. Boca Raton			
McAllister, Raymond F. Prof. of Oceanography	Demonstration of the Limitations and Effects of Waste Disposal on an Ocean Shelf	WPD 165-01(R1)-67	116,932
University of Florida Gainesville			
Putnam, Hugh D. Assoc. Prof. of Bioenvironmental Sciences	Eutrophication Factors in North-Central Florida Lakes	WPD 158-01(R1)-67	47,424
ILLINOIS			
Izaak Walton League of America, Inc. Glenview			
Penfold, Joseph W. Conservation Director	Citizen Workshops on Clean Waters for America	WPD 128-02-67	38,625

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
INDIANA			
Rose Polytechnic Institute Terre Haute			
Arthur, Robert M. Assoc. Prof. of Bioengineering	Automatic Recording of Short Term B.O.D.	WPD 141-01-67	13,300
University of Notre Dame Notre Dame			
Tenney, Mark W. Asst. Prof. of Environmental Health	Effect of Domestic Pollution Abatement on a Eutrophic Lake	WPD 126-02-67	24,694
IOWA			
University of Iowa Iowa City			
Smith, H. Sidwell Prof. and Chairman, Dept. of Civil Engineering	Homogeneous (Totally Mixed) Activated Sludge Applications	WPD 138-01-67	22,712
KANSAS			
University of Kansas Lawrence			
Loehr, Raymond C. Prof. of Civil Engineering	Treatment of Cattle Feedlot Wastes in Oxidation Ponds	WPD 123-02-67	19,366
LOUISIANA			
Tulane University New Orleans			
Macdonald, Frank W. Prof. of Civil Engineering	Bedding and Infiltration Studies of Sanitary Sewers of Gulf Coast Area	WPD 80-03-67	25,838
MARYLAND			
The Johns Hopkins University Baltimore			
Liebman, Jon C. Asst. Prof. of Environmental Engineering Science	Optimization of Regional Waste Treatment Facilities	WPD 125-02-67	6,900
Renn, Charles E. Prof. of Environmental Engineering Science	Reuse of Industrial Wastewater by Management of Recycling Ponds	WPD 117-02-67	33,159

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
MASSACHUSETTS			
Massachusetts Health Research Institute, Inc. Boston			
Tompkins, William A. Chief Aquatic Biologist	Massachusetts Pesticide Monitoring Demonstration	WPD 88-03-67	17,802
MICHIGAN			
Board of Wayne County Road Commissioners Detroit			
Bingham, George R. Sanitary Engineer	Phosphate Removal and Improved Settling in Primary Treatment	WPD 145-01-67	19,540
City of Jackson Jackson			
Greene, Robert A. Superintendent of Sewage Treatment	Supplementary Aeration Demonstration for Secondary Effluent	WPD 157-01-67	11,919
City of Trenton Trenton			
Hennessey, Timothy L. City Engineer	Phosphate Removal by Biological Process	WPD 173-01-67	69,000
University of Michigan Ann Arbor			
Brown, Robert M. President, National Sanitation Foundation	Development of Criteria for Packaged Compact Sewage Treatment Plants	WPD 74-03-67	89,325
Mancy, Khalil H. Asst. Prof. of Environmental Chemistry	The Application of Programmed Learning Techniques to Water Chemistry	WPD 139-01-67	22,448
MINNESOTA			
Minnesota State Department of Health Minneapolis			
Bauer, Henry Director, Division of Laboratories	Demonstration of the "Channel Aeration Process" in Treatment of Sewage	WPD 33-02(S1)-67 WPD 33-03-67	26,000 20,394

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
MINNESOTA			
St. Mary's College Winona			
McNabb, C. D. Assoc. Prof. of Biology	Demonstration Project for Undergraduate Training of Hydrobiologists in Water Pollution Control	WPD 144-02-67	15,840
State of Minnesota Dept. of Iron Range Resources and Rehabilitation St. Paul			
DeYoannes, A. M. Commissioner, Dept. of Iron Range Resources and Rehabilitation	Peat Bog Waste Stabilization	WPD 164-01(R1)-67	60,635
MISSOURI			
Water and Sewage Technical School Neosho			
Caughran, Lloyd Director	Demonstration School for Training Water and Sewerage System Operators	WPD 2-06-67	48,257
NEW JERSEY			
Delaware River Basin Commission Trenton			
Wright, James F. Executive Director	Delaware Estuary and Bay Water Quality Sampling and Mathematical Modeling Project	WPD 210-01-67	80,000
Wright, James F. Executive Director	Interstate Regional Planning for Water Supply and Waste Disposal	WPD 136-02-67	88,858
Division of Fish and Game Bureau of Fisheries Management Trenton			
Pyle, A. Bruce Principal Fisheries Biologist	Fish and Aquatic Life Consideration in New Jersey's Water Pollution Abatement Program	WPD 4-06-67	20,000
Rutgers, - The State University New Brunswick			
Whipple, William, Jr. Director, Water Resources Research Institute	Oxygen Regeneration of Polluted Rivers	WPD 131-01(R1)-67	102,914

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
NEW MEXICO			
New Mexico State University Las Cruces			
Speece, R. E. Assoc. Prof. of Civil Engineering	Diffused Air U-Tube Oxygenation in an Oxidation Pond	WPD 202-01-67	15,500
NEW YORK			
American Society of Civil Engineers New York City			
Taylor, Donald C. Research Manager	Separation of Sanitary Sewage from Combined Systems of Sewerage	WPD 104-01-66	_____*
County of Nassau Mineola			
Simins, Herbert J. Commissioner of Public Works	Water Conservation by Waste Water Reclamation and Injection for Recharge	WPD 71-03-67	30,000
Health Research Incorporated New York State Dept. of Health Albany			
O'Brien, James E. Sanitary Chemist Division of Laboratories Research	To Evaluate the Utility of Existing Automatic Chemical Analysis Equipment for Water Quality Surveillance Under Computer Control	WPD 119-01(R1)-67	44,331
New York State Dept. of Health Albany			
Stevens, Donald B. Chief, Research and Development Bureau Water Resources Services	Treatment Required by Sewage for Injection-Well Recharge	WPD 83-03-67	134,183
Rensselaer Polytechnic Institute Troy			
Aulenbach, Donald B. Assoc. Prof. of Environmental Engineering	Removal of Syndets and Reclamation of Laundry Wastes	WPD 99-01-67	29,630
State University College at Brockport Brockport			
Damann, Kenneth E. Chairman, Dept. of Biological Sciences	Renovation of a Dystrophic Lake into a Eutrophic Lake	WPD 180-01-67	37,643

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
NORTH DAKOTA			
North Dakota State Dept. of Health Bismark			
Van Heuvelen, Willis Chief, Environmental Health and Engineering Services	Anaerobic Fermentation - Aerobic Stabilization Process for Treating Waste Whey with Domestic Waste	WPD 155-01-67	16,750
Van Heuvelen, Willis Chief, Environmental Health and Engineering Services	Treatment of Waste from the Manufacture of Potato Starch by Anaerobic Fermentation - Aerobic Stabilization	WPD 94-03-67	16,000
OHIO			
City of Cincinnati Cincinnati			
Caster, Arthur D. Superintendent, Division of Water Pollution Control	Nitrogen Removal in Municipal Waste Treatment	WPD 151-01-67	36,250
City of Dayton Dayton			
Tossey, DeFro Superintendent of Sewage Treatment	Tertiary Treatment by Flocculation and Rapid-Sand Filtration	WPD 114-02-67	9,562
Ohio State University Athens			
Kaneshige, Harry M. Asst. Prof. of Civil Engineering	Operational Demonstration of Oxidation Ditch Method of Waste Treatment	WPD 100-02-67	39,213
University of Cincinnati Cincinnati			
Eye, J. David Prof. of Environmental Health Engineering	Treatment of Beam House Wastes From a Vegetable Tannery	WPD 185-01-67	59,125
OKLAHOMA			
University of Oklahoma Research Institute Norman			
Reid, George W. Prof. of Civil Engineering	Demonstrating the Effect of Nutrients from Oxidation Ponds in Receiving Streams	WPD 98-02-67	12,340

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
OREGON			
Oregon State University Corvallis			
Burgess, Fredrick J. Prof. of Civil Engineering	Water Reuse Quantity-Quality Effect on Treatment Process	WPD 90-03-67	28,985
PENNSYLVANIA			
Pennsylvania State University University Park			
Farrell, Michael A. Director, Agricultural Experiment Station	Renovation of Sewage Effluent for Reuse as a Water Resource	WPD 95-03-67	63,295
Villanova University Villanova			
Clarke, Edgar W. Prof. of Chemical Engineering	Elimination of Water Pollution by Used Oil Re-Refining Plants	WPD 174-01-67	33,796
TENNESSEE			
Vanderbilt University Nashville			
Krenkel, Peter A. Prof. and Director, Sanitary and Water Resources Engineering	Turbulent Diffusion and Reaeration in Natural Rivers	WPD 168-01-67	25,020
TEXAS			
North Texas State University Denton			
Guthrie, Rufus K. Prof. of Biology	Rapid Identification of Microbial Populations in Water	WPD 146-01-67	17,250
San Antonio River Authority Water Quality and Supply Division San Antonio			
Koch, C. Thomas Engineering Assistant	Drying Characteristics of Aerobically Digested Sludge	WPD 182-01-67	11,130

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
UTAH			
Utah State University Logan			
Chadwick, Duane G. Assoc. Prof., Utah Water Research Laboratory	Electronic Analog Simulation of the Salinity Flow System Within the Upper Colorado River Basin	WPD 178-01-67	27,312
Hendricks, David W. Asst. Prof., Utah Water Research Laboratory	Application of Sequential Water Use Theory Within a Hydrologic Complex	WPD 17-02-67	37,390
Woffinden, Duard S. Asst. Research Engineer, Utah Water Research Laboratory	Water Quality Telemetry	WPD 179-01-67	38,456
VIRGINIA			
Strandberg, Carl H., Individual Fairfax	Aerial Water Quality Reconnaissance Demonstration	WPD 20-03-65 WPD 20-03(S1)-67	* 4,088
University of Virginia Charlottesville			
Parker, Clinton E. Asst. Prof. of Civil Engineering	An Anaerobic-Aerobic Lagoon for Treating Vegetable Tannins	WPD 199-01-67	30,283
WASHINGTON			
University of Washington Seattle			
Oglesby, Ray T. Asst. Prof. of Civil Engineering	Dilution Effects on Nutrients and Productivity in Receiving Waters	WPD 38-03-67	11,834
Washington State University Pullman			
Proctor, Donald E. Assoc. Prof. of Sanitary Engineering	Anaerobic-Aerobic Lagoon Treatment of Dairy Manure Wastes	WPD 184-01-67	40,124
WEST VIRGINIA			
West Virginia University Morgantown			
Burchinal, J. C. Dept. of Civil Engineering	A Study of the Oxidation Ditch Method of Waste Treatment	WPD 36-02-66	*

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND PROJECT DIRECTOR	PROJECT TITLE	GRANT NO.	AMOUNT
WISCONSIN			
Sewerage Commission of the City of Milwaukee Milwaukee			
Ernest, Lawrence A. Laboratory Director	Sewage Phosphorus Removal by an Activated Sludge Plant	WPD 188-01-67	95,578
WYOMING			
University of Wyoming Laramie			
Davis, Eric Asst. Prof. of Civil Engineering	Supplementary Aeration of Lagoons in Rigorous Climate Areas	WPD 133-01(R1)-67	32,508

WATER POLLUTION CONTROL

TRAINING GRANTS FISCAL YEAR 1967

SUMMARY OF GRANTS AWARDED BY STATES

State	Institutions and Agencies	Number Awarded	Amount Awarded
Arizona	1	1	$ 24,489
Arkansas	1	1	12,444
California	3	4	185,818
Colorado	2	2	99,367
Florida	1	1	59,080
Georgia	1	1	46,421
Hawaii	1	1	27,536
Illinois	2	2	118,270
Indiana	1	1	19,185
Iowa	1	1	17,072
Kansas	1	1	58,409
Kentucky	1	1	27,518
Maine	1	1	36,632
Maryland	1	1	34,935
Massachusetts	4	4	129,682
Michigan	3	5	200,074
Minnesota	1	2	33,874
Mississippi	1	1	45,922
Missouri	2	2	69,454
Montana	1	1	50,830
New Jersey	1	1	21,708
New Mexico	1	1	18,159
New York	3	4	206,329
North Carolina	2	2	52,248
Ohio	3	3	96,147
Oklahoma	2	3	122,949
Oregon	1	4	231,094
Pennsylvania	1	2	73,350
South Carolina	1	1	69,111
South Dakota	1	1	42,223
Tennessee	1	1	47,119
Texas	4	4	196,927
Utah	1	1	29,953
Virginia	1	1	40,154
Washington	2	2	65,717
West Virginia	1	1	46,651
Wisconsin	2	5	251,991
37 States	58	71	$2,908,842

Active Training Grants 1967

37 States
58 Institutions and Agencies
71 Training Grants

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WATER POLLUTION CONTROL

TRAINING GRANTS

FISCAL YEAR 1967

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
ARIZONA			
University of Arizona Tucson			
Mees, Quentin M. Dept. of Civil Engineering	Training in Water Management, Development and Reuse	5T1-WP-92-02	$ 24,489
ARKANSAS			
University of Arkansas Fayetteville			
Heiple, Loren R., Ph.D. Dept. of Civil Engineering	Water Supply and Water Pollution Control Specialist Training	5T1-WP-85-03	12,444
CALIFORNIA			
San Jose State College San Jose			
Agardy, Franklin J., Ph.D. Dept. of Civil Engineering	Graduate Training in Water Quality Control	5T1-WP-66-04	23,163
Stanford University Stanford			
Eliassen, Rolf, Ph.D. Dept. of Civil Engineering	Interdisciplinary Management of Water Resources and Water Quality	2T1-WP-38-05 3T1-WP-38-05S1	105,689 2,160
Kruger, Paul, Ph.D. Dept. of Civil Engineering	Use of Radioisotope Techniques in Water Pollution Control	2T1-WP-9-06	28,678
University of California Davis			
Scott, Verne H., Ph.D. Dept. of Water Science and Engineering	Irrigation Effects on Control of Water Pollution	2T1-WP-7-06 3T1-WP-7-05S1	23,757 2,371

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
COLORADO			
Colorado State University Fort Collins			
Morrison, S. M., Ph.D. Dept. of Microbiology	Graduate Training in Water Microbiology	5T1-WP-127-02	58,293
University of Colorado Boulder			
Flack, J. Ernest, Ph.D. Dept. of Civil Engineering	Interdisciplinary Education of Water Quality Management Engineers	5T1-WP-105-02	41,074
FLORIDA			
University of Florida Gainesville			
Kiker, John E., Jr., Professor Dept. of Bioenvironmental Engineering	Water Pollution Control Training for Engineers	1T1-WP-119-01	59,080
GEORGIA			
Georgia Institute of Technology Atlanta			
Kindsvater, Carl E., Ph.D. Water Resources Center	Water Quality and Resources Engineering	5T1-WP-62-04	46,421
HAWAII			
University of Hawaii Honolulu			
Burbank, Nathan C., Sc.D. Dept. of Civil Engineering	Pacific Island Sanitary Engineering	5T1-WP-69-04	27,536
ILLINOIS			
Northwestern University Evanston			
Gotaas, H. D., Sc.D. Dept. of Civil Engineering	Water Resources and Pollution Control Engineering	1T1-WP-135-01	60,101
University of Illinois Urbana			
Engelbrecht, R. S., Ph.D. Dept. of Civil Engineering	Training in Water Quality and Pollution Control	5T1-WP-128-02	58,169

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
INDIANA			
Purdue University Lafayette			
Etzel, James E., Ph.D. Dept. of Civil Engineering	Engineering and Design of Water Pollution Control Facilities	2T1-WP-13-06	19,185
IOWA			
Iowa State University of Science and Technology Ames			
Baumann, Robert E., Ph.D. Dept. of Civil Engineering	Chemistry of Waste Treatment Including Nuclear Wastes	2T1-WP-45-05	17,072
KANSAS			
University of Kansas Lawrence			
McKinney, Ross E., Sc.D. Dept. of Civil Engineering	Water Research and Training	5T1-WP-50-04	58,409
KENTUCKY			
University of Kentucky Lexington			
Lauderdale, Robert A., Ph.D. Dept. of Civil Engineering	Water Resources and Sanitary Engineering	5T1-WP-64-04	27,518
MAINE			
University of Maine Orono			
Sproul, Otis J., Sc.D. Dept. of Civil Engineering	Training Program in Water Pollution Microbiology	2T1-WP-17-06	36,632
MARYLAND			
The Johns Hopkins University Baltimore			
Wolman, M. Gordon, Ph.D. Dept. of Environmental Engineering Science	Water Science and Management	2T1-WP-51-05	34,935

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
MASSACHUSETTS			
Harvard University Cambridge			
Morris, J. Carrell, Ph.D. Division of Engineering and Applied Physics	Summer Institute in Advanced Sanitary Chemistry	1T1-WP-133-01	12,885
Northeastern University Boston			
Cochrane, John J., Ph.D. Dept. of Civil Engineering	Water Pollution Control and Water Resource Training	1T1-WP-136-01	39,801
Tufts University Medford			
Hanes, N. Bruce, Ph.D. Dept. of Civil Engineering	Water Pollution Control and Public Health Engineering	5T1-WP-40-05	38,576
University of Massachusetts Amherst			
Feng, Tsuan Hua, Ph.D. Dept. of Civil Engineering	Water Quality and Quantity Engineering	5T1-WP-77-03 3T1-WP-77-03S1	37,788 632
MICHIGAN			
Michigan State University East Lansing			
Roelofs, Eugene W., Ph.D. Dept. of Fisheries and Wildlife	Graduate Training of Pollution Biologists	5T1-WP-109-02	45,334
University of Michigan Ann Arbor			
Borchardt, Jack A., Professor Dept. of Civil Engineering	Training Grant in Sanitary Engineering	1T1-WP-157-01	34,729
Gannon, John J., M.P.H. Dept. of Environmental health	Training in Water Pollution Control and Public Health	2T1-WP-15-06	67,716
Leonard, Justin W., Ph.D. Dept. of Wildlife and Fisheries	Physiological Action of Water Pollutants	2T1-WP-16-06	18,799
Wayne State University Detroit			
Dirasian, Henry A., Ph.D. Dept. of Civil Engineering	Sanitary Engineering and Water Pollution	1T1-WP-101-01A1	33,496

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
MINNESOTA			
University of Minnesota Minneapolis			
Olson, Theodore A., Ph.D. School of Public Health	Training in Water Quality Field Investigation Techniques	5T1-WP-95-0[illegible]	19,546
Schroepfer, George J., Ph.D. Dept. of Civil Engineering	Sanitary Engineering and Water Resources Program	5T1-WP-33-05	14,328
MISSISSIPPI			
Mississippi State University State College			
Williford, Howard K. Dept. of Civil Engineering	Waste Water Disposal Engineering Training Program	5T1-WP-108-02	45,922
MISSOURI			
University of Missouri Columbia			
Ray, Arliss D., Ph.D. Dept. of Civil Engineering	Water Quality Engineering	5T1-WP-30-04	54,065
University of Missouri Rolla			
Grigoropoulos, S. G., Sc.D. Dept. of Civil Engineering	Water and Waste Water Engineering	5T1-WP-86-02	15,389
MONTANA			
Montana State College Bozeman			
Wright, John C., Ph.D. Dept. of Botany and Bacteriology	Physical and Chemical Aspects of Water Pollution	2T1-WP-1-06	50,830
NEW JERSEY			
Rutgers, The State University New Brunswick			
Kaplovsky, A. Joel, Ph.D. Dept. of Environmental Science	Water Sanitation	5T1-WP-43-05	21,708

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
NEW MEXICO			
New Mexico State University University Park			
Clark, John W., Professor Dept. of Civil Engineering	Water Resources Planning and Conservation	5T1-WP-48-05	18,159
NEW YORK			
Cornell University Ithaca			
Gates, Charles D., Professor School of Civil Engineering	Sanitary Engineering and Water Resources Program	2T1-WP-3-06	51,622
Manhattan College New York			
McCabe, Joseph, Brother, M.C.E. Dept. of Civil Engineering	Training of Professional Specialists in Water Pollution Control	2T1-WP-26-06	78,973
O'Connor, Donald J., Sc.D. Dept. of Civil Engineering	Summer Institute in Water Supply and Pollution Control	5T1-WP-32-05	17,894
New York University New York			
Dobbins, William E., Ph.D. Dept. of Civil Engineering	Water Supply and Water Pollution Control Engineering	2T1-WP-24-06	57,840
NORTH CAROLINA			
North Carolina State University Raleigh			
Smallwood, Charles, Jr., Professor Dept. of Civil Engineering	Graduate Training of Water and Waste Treatment Engineers	5T1-WP-68-04	16,881
University of North Carolina Chapel Hill			
Weiss, Charles M., Ph.D. Dept. of Environmental Science and Engineering	Training Program in Water Pollution Control Engineering	2T1-WP-6-06	35,367
OHIO			
Ohio State University Columbus			
Dambach, Charles A., Ph.D. National Resources Institute	Interdisciplinary Water Resources Training	5T1-WP-39-04	31,598

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
OHIO			
University of Cincinnati Cincinnati			
Eye, J. David, Sc.D. Dept. of Civil Engineering	Research Training and the Aquatic Environment	5T1-WP-46-04 3T1-WP-46-04S1	22,507 22,280
University of Toledo Toledo			
Bennett, Gary F., Ph.D. Dept. of Chemical Engineering	Bioengineering Training in Water Pollution Control	5T1-WP-94-02	19,762
OKLAHOMA			
Oklahoma State University Stillwater			
Dorris, Troy C., Ph.D. Dept. of Zoology	Program for Aquatic Biology Specialists in Water Pollution	2T1-WP-23-06	46,288
Gaudy, Anthony F., Jr., Ph.D. School of Civil Engineering	Bioengineering Training in Water Pollution Control	2T1-WP-19-06	43,386
University of Oklahoma Norman			
Reid, George W., Professor Dept. of Civil Engineering	Water Resource Development Training Program	5T1-WP-29-05 3T1-WP-29-05S1	17,997 15,278
OREGON			
Oregon State University Corvallis			
Burgess, Fred K., Ph.D. Dept. of Civil Engineering	Engineering Control of Waste Water Disposal Training Program	2T1-WP-25-06	71,038
Curl, Herbert, Jr., Ph.D. Dept. of Oceanography	Training of Estuarine Specialists in Water Quality	5T1-WP-111-02	103,598
Stoevener, Herbert H., Ph.D. Dept. of Agriculture Economics	Water Pollution Economics	2T1-WP-71-04	16,794
Warren, Charles E., Ph.D. Dept. of Fish and Game Management	Freshwater and Marine Pollution Biology Program	5T1-WP-52-05	39,664

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
PENNSYLVANIA			
University of Pittsburgh Pittsburgh			
Miller, James P., Jr., Ph.D. Dept. of Civil Engineering	Water Resources and Water Pollution Control Engineering	5T1-WP-41-05	43,368
Tryon, C. A., Ph.D. Pymatuning Laboratory of Field Biology	Graduate Training in Aquatic Ecology	5T1-WP-83-02	29,982
SOUTH CAROLINA			
Clemson University Clemson			
Rich, Linvil G., Ph.D. College of Engineering	Graduate Program in Process Engineering of Waste Water Treatment	2T1-WP-8-06	69,111
SOUTH DAKOTA			
South Dakota State University Brookings			
Dornbush, James N., Sc.D. Dept. of Civil Engineering	Water Resources and Sanitary Engineering	5T1-WP-93-03	42,223
TENNESSEE			
Vanderbilt University Nashville			
Krenkel, Peter A., Ph.D. Dept. of Civil Engineering	Sanitary Engineering Training Program	5T1-WP-34-05	47,119
TEXAS			
North Texas State University Denton			
Silvey, J. K. G., Ph.D. Dept. of Biology	Training of Water Quality Microbiologists	5T1-WP-107-02	22,902
Texas A & M University College Station			
Hann, Roy W., Ph.D. Dept. of Sanitary Engineering	Petro-Chemical Waste Abatement	5T1-WP-74-04 3T1-WP-74-03S1	53,435 16,698

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
TEXAS			
University of Texas Austin			
Gloyna, Ernest F., Ph.D. Dept. of Civil Engineering	Water Resources and Water Pollution Control Training Program	2T1-WP-20-06	27,514
William Marsh Rice University Houston			
Busch, Arthur W., Professor Dept. of Chemical Engineering	Chemical Engineering Training in Water Pollution Control Processes	5T1-WP-44-05	76,378
UTAH			
University of Utah Salt Lake City			
Gaufin, Arden R., Ph.D. Dept. of Zoology and Entomology	Limnology and Sanitary Biology Aspects of Water Pollution	5T1-WP-54-05	29,953
VIRGINIA			
Virginia Polytechnic Institute Blacksburg			
Parsons, William A., Ph.D. Dept. of Civil Engineering	Graduate Training in Water Pollution Technology	5T1-WP-31-05	40,154
WASHINGTON			
University of Washington Seattle			
Sylvester, Robert O., Professor Dept. of Civil Engineering	Graduate Training of Water Quality Engineers	5T1-WP-122-02	42,523
Washington State University Pullman			
Dunstan, Gilbert H., Professor Dept. of Civil Engineering	Water Pollution Control and Waste Water Disposal Engineering	2T1-WP-11-06	23,194
WEST VIRGINIA			
West Virginia University Morgantown			
Burchinal, Jerry C., Ph.D. Dept. of Civil Engineering	Water Supply and Waste Control	5T1-WP-72-04 3T1-WP-72-04S1	39,811 6,840

LOCATION AND PROGRAM DIRECTOR	PROGRAM TITLE	GRANT NO.	AMOUNT
WISCONSIN			
Marquette University Milwaukee			
Kipp, Raymond J., Ph.D. Dept. of Civil Engineering	Water Pollution Control Engineering Training	1T1-WP-129-01	22,879
University of Wisconsin Madison			
Clarenbach, Fred A., Ph.D. Dept. of Civil Engineering	Water Resources Management	5T1-WP-60-04	65,181
Hasler, Arthur D., Ph.D. Dept. of Zoology	Training Program for Aquatic Scientist in Hydrobiology	2T1-WP-2-06	49,274
Lee, G. Fred, Ph.D. Dept. of Civil Engineering	Training Program in Water and Water Pollution Chemistry	2T1-WP-22-06	86,484
Polkowski, Lawrence B., Ph.D. Dept. of Civil Engineering	Water and Waste Water Control Engineering	5T1-WP-132-02	28,173

WATER POLLUTION CONTROL

RESEARCH FELLOWSHIPS FISCAL YEAR 1967

SUMMARY OF AWARDS BY STATES

State	Institutions and Agencies	Number Awarded	Amount Awarded
Arkansas	1	1	$ 4,900
California	3	8	45,268
Colorado	2	3	16,083
Georgia	2	2	12,100
Indiana	1	1	7,530
Iowa	2	8	42,383
Kansas	2	2	10,433
Louisiana	1	1	5,400
Maryland	2	2	14,600
Massachusetts	3	2	11,900
Michigan	3	18	106,691
Missouri	2	2	11,200
New Hampshire	1	1	6,800
New Mexico	1	1	6,100
New York	2	6	30,689
Ohio	1	1	953
Oklahoma	2	2	10,200
Oregon	1	4	20,950
Pennsylvania	1	1	6,675
South Carolina	1	6	39,407
Texas	2	2	10,200
Utah	2	6	40,600
Washington	1	4	27,949
Wisconsin	2	16	98,154
Foreign	5	4	35,246
24 States	46	103	$622,411

Active Research Fellowships 1967

31 States 2 Foreign Countries
55 Institutions and Agencies
147 Research Fellowships

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WATER POLLUTION CONTROL

RESEARCH FELLOWSHIPS

FISCAL YEAR 1967

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
ARKANSAS			
University of Arkansas Fayetteville			
Owen, Ray Dept. of Civil Engineering	Waste Treatment Prediction Using Computers	1-F1-WP-35,936-01	$ 4,900
CALIFORNIA			
Stanford University Stanford			
Atkins, Patrick R. Dept. of Civil Engineering	Rain-Out Washout Processes Applied to Lead Aerosols	5-F1-WP-33,496-02	5,800
Barber, Richard T. Dept. of Biological Sciences	The Dissolved Organic Carbon Cycle in Seawater	1-F1-WP-31,099-01A1	____*
Foree, Edward G. Dept. of Civil Engineering	Decomposition of Algae in Natural Anaerobic Waters	5-F1-WP-26,177-02	5,800
Haskell, Broderick P. Dept. of Civil Engineering	Secondary Benefits Evaluation Derived from Water Pollution Abatement	2-F3-WP-26,102-02	____*
Huff, Dale D. Dept. of Civil Engineering	Rainfall Deposition of Radioactive Fallout in Water Supplies	5-F1-WP-26,022-02	____*
Jewell, William Dept. of Civil Engineering	Algal Degradation in Waterways	1-F1-WP-33,693-01	____*
Linstedt, Kermit D. Dept. of Civil Engineering	Vanadium Removal in Water Treatment Coagulation	5-F1-WP-22,084-04	5,800
O'Rourke, James T. Dept. of Civil Engineering	Effects of Temperature Variation on Anaerobic Digestion	5-F1-WP-26,010-03	3,989

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
CALIFORNIA			
Stanford University Stanford			
Stratton, Frank E. Dept. of Civil Engineering	Nitrogen Effects on Oxygen Resources in Streams	5-F1-WP-20,354-03	____*
Tchobanoglous, George Dept. of Civil Engineering	The Use of Granular Filters in Tertiary Treatment	5-F1-WP-22,439-04	2,850
Young, James C. Dept. of Civil Engineering	The Anaerobic Filter for Waste Treatment	5-F1-WP-28,715-02	6,800
University of California Berkeley			
Middlebrooks, Eddie Dept. of Civil Engineering	Kinetics of Biological Systems	1-F3-WP-26,205-01	12,654
University of California Davis			
Carlson, John S. Dept. of Zoology	Effects of Micro-Nutrients on Primary Production Organisms	4-F1-WP-21,612-05	1,325
Carlson, John S. Dept. of Zoology	Primary Productivity and Zooplankton Population Dynamics in Castle Lake, California	4-F1-WP-21,612-04	250**
COLORADO			
Colorado State University Fort Collins			
Hendricks, Charles W. Dept. of Pathology and Microbiology	Growth of Selected Enteric Bacteria in River Water	5-F1-WP-22,545-03	____*
Wendt, Theodore M. Dept. of Pathology and Microbiology	Urease Positive Bacteria and Their Relation to Water Pollution	1-F1-WP-26,114-01A1 5-F1-WP-26,114-02	408** 6,300
University of Colorado Boulder			
LaVelle, James W. Dept. of Biology	Primary Productivity of the Arkansas River in the Vicinity of Pueblo, Colorado	5-F1-WP-26,101-03	2,575

* Active 1967 - Supported by funds awarded in previous years
** Supply, travel or dependent allowance

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
COLORADO			
University of Colorado Boulder			
Young, Willard C. Dept. of Biology	The Hydracarina of Colorado and Their Distribution as Related to Altitude and Water Chemistry	5-F1-WP-26,062-02	6,800
GEORGIA			
Emory University Atlanta			
Mozley, Samuel Dept. of Biology	Ecology of Chironomid Species in a Small Lake	1-F1-WP-37,227-01	6,300
University of Georgia Athens			
Cooke, George D. Dept. of Zoology	A Study of Eco-Energetics on a Pond Ecosystem Utilizing a Pesticide Tracer	1-F2-WP-29,492-01	____*
Mayberry, William R. Dept. of Bacteriology	Gas-Liquid Chromatographic Studies of Biodegradation of Detergents	5-F1-WP-21,658-03	____*
Todd, Russell L. Dept. of Bacteriology	Bacterial Decomposition of Detergents in Sewage	5-F1-WP-21,402-03	5,800
IDAHO			
University of Idaho Moscow			
Smith, Stamford D. Dept. of Entomology	Faunal and Ecological Studies in the Trichiptera of Idaho	5-F1-WP-26,026-03	____*
ILLINOIS			
Northwestern University Evanston			
Smith, Frank A. Dept. of Economics	Economic Aspects of Water Pollution Abatement in the Pulp and Paper Industry	1-F1-WP-26,109-01	____*

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
ILLINOIS			
University of Illinois Urbana			
Hall, Millard W. Dept. of Civil Engineering	Inorganic Phosphorus Removal by the Activated Sludge Process	5-F1-WP-21,616-03	____*
INDIANA			
Indiana University Bloomington			
Gorden, Robert W. Dept. of Microbiology	Aquatic Microbiology of a Freshwater Reservoir	1-F2-WP-22,138-01	7,530
IOWA			
Iowa State University Ames			
Bridges, Harold R. Dept. of Civil Engineering	Diatomite Filter Cake Resistance for Surface Waters	5-F1-WP-26,104-02	5,100
Burns, Donald E. Dept. of Civil Engineering	Removal of Particulate Matter on Coated Filter Media	5-F1-WP-26,003-03	6,800
Hermanson, Ronald E. Dept. of Agricultural Engineering	Activated-Sludge Stabilization of Swine Waste	5-F1-WP-23,671-03	2,683
Merideth, Kenneth C. Dept. of Civil Engineering	Statistical Analysis Relevant to Water Pollution Control	5-F1-WP-24,554-02	____*
Raschke, Ronald L. Dept. of Botany and Plant Pathology	Algal Productivity and Waste Reclamation in a Sewage Stabilization Pond	5-F1-WP-26,064-02	6,600
Sedgwick, Stephen R. Dept. of Civil Engineering	Biological Treatment of Adsorbed Refractories	1-F1-WP-26,242-01	5,400
Wildman, Ruth B. Dept. of Cell Biology	The Biochemistry of the Blue-Green Algae	1-F1-WP-37,930-01	5,100
University of Iowa Iowa City			
Bright, David F. Dept. of Civil Engineering	Water or Wastewater Treatment Process Analysis	1-F1-WP-37,089-01	5,400
Lampe, Wallace D. Dept. of Civil Engineering	Biological Flocculation in Activated Sludge	5-F1-WP-33,656-02	5,300

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
IOWA			
University of Iowa Iowa City			
Teasdale, John D. Dept. of Civil Engineering	Virus Movement Through Porous Media	5-F1-WP-22,430-02	_____*
KANSAS			
Kansas State University Manhattan			
Foxx, Charles L. Dept. of Chemistry	Properties and Structures of Metal EDTA Complexes	1-F1-WP-26,202-01	6,300
University of Kansas Lawrence			
Burkhead, Carl E. Dept. of Civil Engineering	Energy Relationships in Aerobic Metabolism	5-F1-WP-21,611-03	_____*
Stukenberg, John R. Dept. of Civil Engineering	Radiotracer Studies of Endogenous Metabolism	5-F1-WP-24,278-03	4,133
KENTUCKY			
University of Louisville Louisville			
Greeson, Phillip E. Dept. of Biology	The Major Sources of Dissolved Oxygen in the Aquatic Environment	5-F1-WP-26,056,02	_____*
LOUISIANA			
Northwestern State Natchitoches			
Brown, Ellison E. Dept. of Biological Sciences	Effects of Pollution on Benthic Macroinvertebrates	1-F1-WP-26,216-01	5,400
MARYLAND			
Johns Hopkins University Baltimore			
Gillespie, William J. Dept. of Environmental Engineering Science	Water Reuse in Industrial Applications	1-F1-WP-26,236-01	6,100***
Meyers, Caldwell D. Dept. of Environmental Engineering Science	Responses of the White Perch to Temperature and O_2	1-F1-WP-26,198-01A1	7,800

*Active 1967 - Supported by funds awarded in previous years
***Not Activated

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
MARYLAND			
Johns Hopkins University Baltimore			
Schubel, Jerry R. Dept. of Oceanography	Sedimentation and Mineral Assemblages in Estuaries	5-F1-WP-23,785-03	6,800
University of Maryland College Park			
McErlean, Andrew J. Dept. of Zoology	Heat Stress and Thyroidal Relationships in Roccus americanus	2-F3-WP-24,146-02	____*
MASSACHUSETTS			
Harvard University Cambridge			
Schaake, John C. Dept. of Environmental Sciences and Engineering	Economic Aspects of Water Management	1-F2-WP-26,108-01	____*
Massachusetts Institute of Technology Cambridge			
Matson, Wayne R. Dept. of Chemistry	Lead Geochemistry in an Urban Environment	5-F1-WP-31,180-02	5,800
University of Massachusetts Amherst			
Saines, Marvin Dept. of Geology	Hydrology Induced Infiltration	1-F1-WP-26,229-01	6,100
MICHIGAN			
Michigan State University East Lansing			
Bahr, Thomas G. Dept. of Fisheries and Wildlife	Effects of Sublethal Pesticide Stress Upon Fish	4-F1-WP-26,004-04	2,900
Garton, Ronald R. Dept. of Fisheries and Wildlife	Metallic Ion Pollution in a Warm-Water Stream	5-F1-WP-26,008-04	5,800
Haines, Terry A. Dept. of Fisheries and Wildlife	Some Effects of Water Pollution on Fish Populations	1-F1-WP-26,225-01	5,130

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
MICHIGAN			
Michigan State University East Lansing			
Jackson, Dennis Dept. of Botany and Plant Pathology	The Taxonomy and Ecological Distribution of the Desmidiacae in Montana	1-F1-WP-26,081-01A1	____*
Jensen, Alvin L. Dept. of Fisheries and Wildlife	Effects of Pollution on the Energy Transfer in a Stream Ecosystem	5-F1-WP-26,154-02	5,800
Lenon, Herbert L. Dept. of Fisheries and Wildlife	Transfer of the Insecticide Dieldrin Through Trophic Levels	5-F1-WP-29,109-03	6,300
Sohacki, Leonard P. Dept. of Fisheries and Wildlife	Movement of Sodium Arsenite in a Pond Ecosystem	5-F1-WP-25,711-03	7,800
Michigan State University Hickory Corners			
Miller, Michael C. Dept. of Botany	Biota Dynamics in an Aquatic Ecosystem	1-F1-WP-37,449-01	5,100
University of Michigan Ann Arbor			
Atkins, Peter F. Dept. of Civil Engineering	Kinetics and Uptake of Nitrogen and Phosphates by Ion Exchange	1-F1-WP-26,174-01A1	6,300
Brockway, Donald L. Dept. of Fisheries and Wildlife	Release Effects of Tissue-Stored Dieldrin in Fishes	2-F1-WP-34,286-02	5,367
DiGiano, Francis Dept. of Civil Engineering	Activated Carbon Adsorption in Heterogeneous Systems	1-F1-WP-26,176-01A1	6,300
Foess, Gerald W. Dept. of Civil Engineering	The Sand Filtration of Algae Suspensions	5-F1-WP-26,036-03	5,600
Hirota, Dennis I. Dept. of Civil Engineering	Chemical Oxidation of Domestic Wastes	5-F1-WP-26,095-02	____*
Keinath, Thomas M. Dept. of Civil Engineering	Kinetics of Adsorption in Columns of Fluidized Media	5-F1-WP-24,505-03 5-F1-WP-24,505-04	5,800 2,350
Leland, Harry V. Dept. of Fisheries and Wildlife	Structure-Toxicity of M. Parathion Analogs to Fishes	1-F1-WP-26,240-01	6,800

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
MICHIGAN			
University of Michigan Ann Arbor			
Midkiff, William Dept. of Civil Engineering	Fluidized-Ion Exchange Column	1-F1-WP-26,227-01	5,100
Pohland, Frederick G. Dept. of Environmental Health	Study and Research in Water Resources Sciences	1-F3-WP-37,035-01	12,544
Schenk, John E. Dept. of Civil Engineering	Silica Interaction with Trace Metals	5-F1-WP-26,034-03	6,600
Winklehaus, Charles Dept. of Civil Engineering	Sludge and Slurry Deposition and Dewatering	1-F1-WP-26,231-01	5,100
MISSOURI			
University of Missouri Columbia			
Hemphill, Louis Dept. of Civil Engineering	Application of Thermal Technique for Detecting Organic Pollution	5-F1-WP-26,007-02	____*
Hoehn, Robert C. Dept. of Civil Engineering	Biodegradation of Organic Materials Adsorbed on Carbon	5-F1-WP-26,150-02	6,100
Washington University St. Louis			
Smith, James E. Dept. of Civil and Environmental Engineering	Control of Activated Sludge Bulking with Heavy Metals	1-F1-WP-26,249-01	5,100
Young, Reginald H. F. Dept. of Environmental and Sanitary Engineering	Degradation of Trace Organic Pollutants	5-F1-WP-26,027-02	____*
NEW HAMPSHIRE			
University of New Hampshire Durham			
Gallup, Donald N. Dept. of Zoology	Zoo-Nannoplankton Relationships in a Mesotrophic Lake	1-F1-WP-26,218-01	6,800

* Active 1967 - Supported by funds awarded in previous years

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
NEW MEXICO			
New Mexico State University University Park			
Kramer, Gary R. Dept. of Civil Engineering	Mathematical Model of the Transition State	1-F1-WP-26,220-01	6,100
NEW YORK			
Cornell University Ithaca			
Arnold, Dean E. Dept. of Ecology and Systematics	Effects of the Blue-Green Algae on Zooplankton	1-F1-WP-36,214-01	5,600
Kirby, William H. Dept. of Sanitary Engineering	Systems Theory Use in Design of Water Resource Engineering	5-F1-WP-24,561-03	5,522
Skelly, Michael Dept. of Sanitary Engineering	Optimal Process Design for Multiple Waste Components	1-F1-WP-33,749-01A1	6,300
Wanielista, Martin P. Dept. of Water Resources Engineering	Optimal Location and Evaluation of Surveillance Nets	1-F1-WP-33,751-01A1	5,800
Ward, Charles R. Dept. of Entomology and Limnology	Ecological Changes in Modified Playas	5-F1-WP-15,212-05	3,042
New York University University Heights			
Bella, David A. Dept. of Civil Engineering	Distribution of Pollutants in Rivers and Estuaries	5-F1-WP-26,038-03	4,425
Metzger, Ivan Dept. of Civil Engineering	Mathematical Methods for Sanitary Engineering Applications	1-F3-WP-26,053-01	____*
NORTH CAROLINA			
University of North Carolina Chapel Hill			
Gahstatter, Jack H. Dept. of Environmental Science and Engineering	The Accumulation and Excretion of DDT and Dieldrin by Fish	5-F1-WP-21,673-03	____*
Henderson, Oliver Dept. of Environmental Science and Engineering	Microflotation of Algae	2-F1-WP-21,608-03	____*

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
OHIO			
Ohio State University Columbus			
Kucha, Michael J. Dept. of Law	Legal Problems Encompassed Within Water Pollution Abatement	5-F3-WP-26,033-03	953
OKLAHOMA			
Oklahoma State University Stillwater			
Grady, Leslie C. F. Dept. of Civil Engineering	Metabolic Control in Multicomponent Systems	5-F1-WP-16,744-03	5,100
Harrel, Richard C. Dept. of Zoology	Stream Order and Distribution of Benthic Invertebrates	5-F1-WP-23,074-02	____*
Knudson, Vernie A. Dept. of Zoology	Dehydrogenase Concentration to Estimate a Functioning Biomass	5-F1-WP-26,087-02	____*
Oklahoma University Norman			
Engelken, Walter E. Dept. of Civil Engineering and Environmental Science	Ionic Buffer Capacity of High Surface Area Materials	1-F1-WP-26,233-01	5,100
OREGON			
Oregon State University Corvallis			
Haertel, Lois J. Dept. of Oceanography	Relationships Between Columbia River Estuary Plankton, Radionuclides and Wood Fibers	5-F1-WP-31,471-02	5,300
Holton, Robert L. Dept. of Oceanography	Radiosensitivity of Marine Organisms	5-F1-WP-30,166-03	2,450
McCain, Bruce B. Dept. of Microbiology	Characterization of Virus Infections for Salmonid Cell Cultures	5-F1-WP-26,157-02	5,600
Robertson, James M. Dept. of Microbiology	A Physiological Ecological Study of Sphaerotilus Natans in an Experimental Stream	5-F1-WP-26,040-02	____*

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
OREGON			
Oregon State University Corvallis			
Seabloom, Robert W. Dept. of Civil Engineering	Influence of Impoundments on Water Quality	1-F3-WP-25,459-01A1	____*
Williams, Harvey D. Dept. of Botany and Plant Pathology	Kraft Pulp Effluent Effects on Algae in Streams	1-F1-WP-26,159-01A1	7,600
PENNSYLVANIA			
Pennsylvania State University University Park			
Eberhardt, William A. Dept. of Civil Engineering	Anaerobic Biological Waste Treatment	5-F1-WP-26,021-03	6,675
RHODE ISLAND			
University of Rhode Island Kingston			
Busser, John H. Dept. of Oceanography	Physiological Indices of Pollution in Marine or Estuarine Waters	2-F3-WP-17,280-04	____*
SOUTH CAROLINA			
Clemson University Clemson			
Bryant, James O. Dept. of Environmental Systems Engineering	Stochastic Model of Bacteria in Continuous Culture	1-F1-WP-26,175-01A1	5,100 ***
Cannella, Albert A. Dept. of Environmental Systems Engineering	Chemical Aspects of Waste Treatment	5-F1-WP-30,617-02	9,600
Click, Clifford N. Dept. of Chemical Engineering	Growth Kinetics of Algae	5-F1-WP-29,884-02	7,100
Holland, Lyman L. Dept. of Chemical Engineering	Growth Kinetics of Algae in a Photosynthetic Reactor	5-F1-WP-26,173-02	5,300
Kornegay, Billy H. Dept. of Civil Engineering	A Rational Mathematical Model for Trickling Filters	5-F1-WP-24,560-03	____*

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*** Withdrawn

LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
SOUTH CAROLINA			
Clemson University Clemson			
Weeks, Walter A. Dept. of Environmental Systems Engineering	Mathematical Model of the Step Aeration Process	1-F1-WP-26,243-01	6,707
Wrenn, John David Dept. of Chemical Engineering	Effect of Light Source on Chlorophyll in Algae	5-F1-WP-26,181-02	5,600
TENNESSEE			
University of Tennessee Knoxville			
Bergquist, Eugene T. Dept. of Botany	Ecological and Morphogenetic Studies of Myriophyllum	5-F1-WP-21,877-03	____*
Vanderbilt University Nashville			
Tomlinson, Henry D. Dept. of Civil and Water Resources Engineering	Effect of Trace Organic Compounds on the Kinetics of Manganese Formation in Reservoirs	1-F1-WP-26,148-01	____*
TEXAS			
Texas A & M University College Station			
Evett, Jack B. Dept. of Civil Engineering	Waste Assimilation Capacity in Non-Steady Rivers	5-F1-WP-23,068-03	5,100
University of Texas Port Aransas			
Steed, David L. Institute of Marine Science	Carbon Balance of an Estuarine Ecosystem	1-F1-WP-26,209-01	5,100
UTAH			
University of Utah Salt Lake City			
Gaufin, Richard F. Dept. of Zoology and Entomology	Uptake of Radioactively Tagged Insecticides by Aquatic Invertebrates	5-F1-WP-26,051-02	____*

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
UTAH			
University of Utah Salt Lake City			
Hales, Donald C. Dept. of Zoology	Effects of Insecticides on a Stream Environment	5-F1-WP-26,025-03	7,800
Merkley, Wayne B. Dept. of Zoology	Evaluation of Nematodes in Water Treatment Plant	5-F1-WP-26,016-03	6,600
Morgan, Garth Ray Dept. of Zoology and Entomology	Plankton Productivity of Pine View Reservoir	1-F1-WP-26,212-01	6,400
Prows, Bernard L. Dept. of Zoology and Entomology	Bioassays to Determine the Toxicity of Pesticides to Aquatic Insects	5-F1-WP-26,130-02	8,100
Utah State University Logan			
Beers, Gary D. Dept. of Wildlife Resources	Algal and Sphaerotilus Production in a Polluted River	1-F1-WP-33,276-01A1	5,100 500**
Hilden, Donald A. Dept. of Wildlife Resources	Toxicity and Interactions of Mg, Ca and Halides on Trout	5-F1-WP-22,891-03	____*
Mayer, Foster Lee Dept. of Wildlife Resources	Insecticide Interaction Effects on Fish Metabolism	1-F1-WP-31,575-01A1	6,100
Nyquist, David Dept. of Wildlife Resources	Eutrophication Trends of Bear Lake (Idaho-Utah) and Effect on the Distribution and Biological Productivity of Zooplankton	5-F1-WP-23,240-03	____*
VIRGINIA			
Virginia Polytechnic Institute Blacksburg			
Harrison, John Dept. of Civil Engineering	Dewatering of Sewage Sludge by Syneresis	5-F1-WP-21,999-03	____*
Judkins, Joseph F. Dept. of Civil Engineering	Crystal Seeding for Control of Sludge Properties	5-F1-WP-23,213-03	____*

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
WASHINGTON			
University of Washington Seattle			
Abernathy, Atwell R. Dept. of Zoology	Limnological Study of Recovery of Lake Washington	1-F3-WP-26,213-01	12,007
Gotelli, David M. Dept. of Botany	Fungal Parasites of the Phytoplankton	1-F1-WP-26,248-01	6,100
Stockner, John G. Dept. of Zoology	Ecology of Thermal Springs	5-F1-WP-26,042-03	3,042
Woelke, Charles E. Dept. of Fisheries	Bioassay Study of Fertilized Oyster Eggs in Puget Sound	5-F1-WP-26,014-03	6,800
WISCONSIN			
Marquette University Milwaukee			
Heinen, John M. Dept. of Biology	Factors Influencing the Uniformly Labelled C^{14} Glucose Uptake by Fish	1-F1-WP-35,673-01	4,900
University of Wisconsin Madison			
Baillod, Charles Dept. of Civil Engineering	Mass Transfer of Nutrients Through Bacterial Floc	5-F1-WP-24,612-02	6,800
Bentley, Eugene M. Dept. of Civil Engineering	Effect of Marshes on Water Quality	1-F1-WP-26,189-01A1	6,600
Biggar, James W. Dept. of Soils	Mixing Processes in Soil in Relation to Waste Control	1-F1-WP-28,715-01	____*
Boucher, Francis R. Dept. of Civil Engineering	Chlorinated Pesticides in Natural Water	5-F1-WP-26,137-02	6,800
Brezonik, Patrick L. Dept. of Civil Engineering	Chemistry of Nitrogen in Natural Waters	5-F1-WP-26,103-02	____*
Cole, Jon A. Dept. of Civil Engineering	General Area of Physical Thickening of Sludges from Biological Waste Treatment	5-F1-WP-28,270-03	7,800
Cowen, William F. Dept. of Water Chemistry	Effect of Organics on Growth of Algae	1-F1-WP-26,207-01	5,400

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
WISCONSIN			
University of Wisconsin Madison			
Delfino, Joseph J. Dept. of Civil Engineering	Aqueous Environmental Chemistry of Manganese	1-F1-WP-26,217-01	5,300
Doll, Frederick L. Dept. of Civil Engineering	Chemistry of Boron in Natural Waters	5-F1-WP-26,009-03	2,850
Gardner, Wayne S. Dept. of Civil Engineering	Isolation of Organic Compounds from Natural Water	1-F1-WP-26,224-01	6,100
Hughes, Robert A. Dept. of Civil Engineering	Persistence of Toxaphene in Natural Waters	1-F1-WP-26,196-01A1	6,600
Karr, Malcolm H. Dept. of Urban and Regional Planning	Water Resources Management	1-F3-WP-26,167-01	804** 500**
Peterson, James O. Dept. of Civil Engineering	Concentration of Organics	5-F1-WP-26,183-02	6,300 458**
Radke, Rodney O. Dept. of Soils	Adsorption of S-Triazine Herbicides at Soil Colloidal Surfaces	5-F1-WP-24,110-03	_____*
Rees, Colin P. Dept. of Zoology	Two Factors Influencing the Distribution of Gammarus Pseudolimnaeus	1-F1-WP-36,364-01	5,100
Shannon, James E. Dept. of Civil Engineering	Chemistry of Metals in Natural Waters	2-F1-WP-26,012-03	6,667
Smith, Sharon G. Dept. of Zoology	Energy Flow through a Population of Ciliate Protozoans in a Lake Community	1-F2-WP-8676-01	_____*
Spear, Richard D. Dept. of Chemistry	Chemistry of Glycollic Acid in Natural Waters	5-F1-WP-26,020-03	6,800
Uttormark, Paul D. Dept. of Civil Engineering	Langmuir Circulation in Lakes	5-F1-WP-24,470-03	_____*
Voelkel, Karl G. Dept. of Civil Engineering	Hydraulic Analysis of Aerated Grit Chambers	5-F1-WP-26,088-02	5,575

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LOCATION AND RECIPIENT	PROJECT TITLE	NUMBER	AMOUNT
WISCONSIN			
University of Wisconsin Madison			
Welesh, Stuart G. Dept. of Civil Engineering	Subsurface Water Movement	5-F1-WP-26,072-03	6,800
FOREIGN			
ENGLAND			
Freshwater Biological Association Ambleside			
Potash, Milton Dept. of Chemistry	Identification of Dissolved Organic Substances in Lake Water	1-F1-WP-26,206-01	7,358 250**
Stockner, John G Dept. of Chemistry	Lake Sediments Study	1-F2-WP-26,042-01	7,249 184** 450**
University College London			
Okun, Daniel A. Dept. of Civil Engineering	Implementation of Water Research into Works Design	1-F3-WP-26,147-01	____*
University of Leeds Leeds			
Markham, James J. Dept. of Chemistry	Synergistic Effects of Complexing Agents in Water Purification by Solvent Extraction	1-F3-WP-26,091-01	____*
University of London London			
Jewell, William J. Dept. of Botany	Algae and Sessile Plant Degradation in Waterways	1-F2-WP-33,693-01	6,631
SWITZERLAND			
Swiss Federal Institute of Technology Zurich			
Washington, Donald R. Biological Section	Effects of Algae on Stream Oxygen Balance	1-F3-WP-7935-01	13,124

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